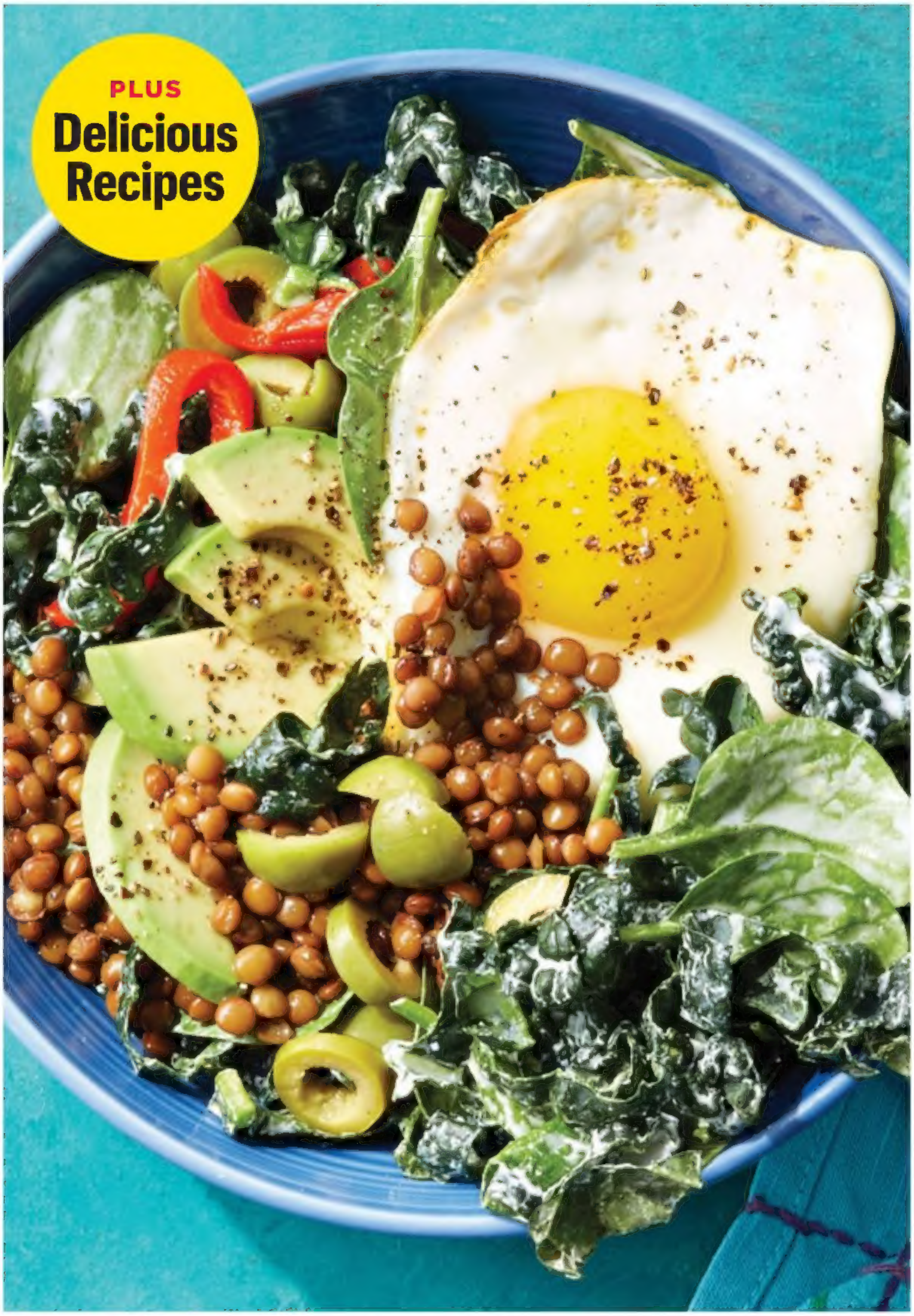
SPECIAL **EatingWell** EDITION

Gut Health

The Science · Nutrition Essentials · Healthy Habits



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Grilled Artichokes at eatingwell.com/grilledartichokes

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Parts of this special edition were previously published.

This book is for general information purposes only, and nothing contained in it is intended to substitute for individualized advice from a physician or other health professional. The reader should consult the appropriate health professional in matters relating to physical and mental health and particularly with respect to any symptoms that may require diagnosis or treatment.

THE KEY TO WHOLE-BODY HEALTH

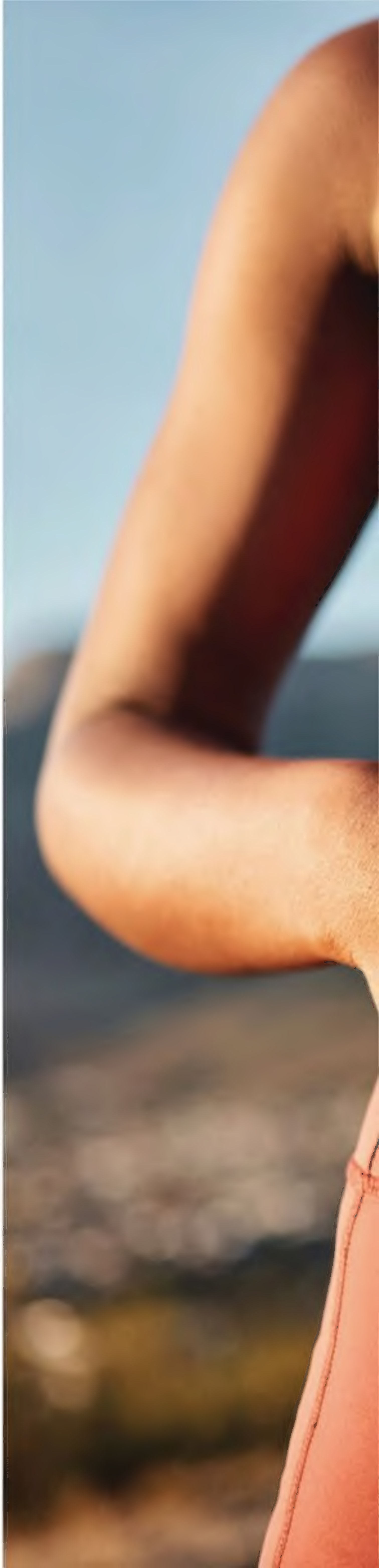
Your gut microbiome forms an active alliance with other areas of the body. As researchers learn more about gut health, they're finding a healthy lifestyle can make a big difference.

BY GABY McPHERSON, M.S., RDN, LDN
REVIEWED BY JESSICA BALL, M.S., RD

Gas, bloat, belly pain and bouts of diarrhea serve as uncomfortable reminders something's up with your gut. But these digestive signals aren't the only factors that point to gut troubles. Brain fog, poor sleep, skin issues and unintended weight changes can also be signs of poor gut health, revealing that the gut is much more than a digestive organ.

Aside from absorbing and storing nutrients, the gut regulates hormone functions and aids immunity and signaling between the brain and nerves. Research continues to uncover that good gut health supports many other parts of well-being, such as better sleep and mood and a healthy heart.

"Whole-person health starts in the gut. If your gut is not healthy, not only are you going to have issues with your digestion, but you're going to have issues with your entire body," says Supriya Rao, M.D., managing partner at Integrated Gastroenterology Consultants. A growing body of research suggests a connection between poorly functioning gut health and disease development, and the reverse may also be true. Your daily habits, including your eating plan, can naturally support your



gut. Here's what you need to know about the role of gut health in whole-body health, including simple ways to adjust your lifestyle in favor of a healthier microbiome.

Understanding the Gut Microbiome

The microbiome, a term meaning "small life," is home to trillions of microbes, including bacteria, viruses and protozoa, that are highly influential to your health; most live in your gut. "I like to think of the microbiome as a garden. If you have a healthy garden, you have beautiful flowers, and a healthy microbiome is when you have a good balance of helpful and pathogenic bacteria," says Rao. Striking the right bacterial proportions is crucial for improving your health from the inside out. "Our flowers need fertilizer and really good conditions to grow, and the microbiome is a very similar thing," Rao says. "If you have weeds growing and your flowers are dying, that means there's something not right in the soil. Maybe you're not giving them enough of the nutrients that they need. And that produces a dysbiotic gut, or a gut that's not balanced." Diarrhea, constipation and heartburn are signs of gut imbalance that can hinder everyday activities.

Not only do the right ratios of "good" and "bad" bacteria matter to your health, but a wide variety of bacteria is also important. "I think what's less obvious about gut health is its impact on our immune function, on weight management, on cardiovascular health, on mental health, on the health of our skin," says Sarah Robbins, M.D., a Canadian gastroenterologist, gut-health expert and founder of the online gut-health platform Well Sunday. "Those things are all becoming more and more evident as we have an increased knowledge and understanding of the microbiome."

Your Gut Supports Immune Defense

"Eighty percent of your immune system is in your gut," says Rao. So it makes sense that a well-functioning gut is critical for a clean bill of health.

+ Slow-Cooker Chicken & Wild Rice Soup with Asparagus & Peas at eatingwell.com/wildricesoup

High-fiber vegetables like kale and broccoli support a healthy gut.

An essential job of the gut is to arm the digestive tract against being colonized by harmful pathogens, which can cause illnesses. Certain bacteria can settle into the gut and invite inflammatory molecules, triggering inflammation in the body's tissues, according to a 2020 review published in the *International Journal of Environmental Research and Public Health.* Inflammation is a top driver of metabolic diseases such as diabetes and inflammatory bowel disease (IBD). In a healthy gut, cells band together tightly to keep the intestinal lining strong so pathogens are less likely to invade. "When there's a breakdown in that layer, these microbes and harmful substances can then pass through those junctions and get into our bloodstream. And that starts a whole inflammatory cascade, and chronic inflammation is the bedrock of most diseases," says Rao. Furthermore, probiotics have been reported to strengthen these tight junctions for protection.

While this shows that the gut provides immune benefits locally, it can also offer further immune support to the rest of the body. According to a 2021 review published in *International Immunology,* gut bacteria in the small intestines can move across the intestinal lining to other areas of the body, such as the lungs and liver, and act on receptors that influence immunity. Through fermentation, gut bacteria break down carbohydrates to produce short-chain fatty acids (SCFAs), which help regulate immune cells, according to a 2020 review published in *Microorganisms.* "Heart disease, diabetes, fatty liver, obesity, cognitive disorders and depression are connected to inflammation, so ensuring that you have good gut health will prevent a lot of this from happening," says Rao. A disturbed gut can amplify inflammation, negatively impacting other areas—skin health, for instance.

Your Gut Influences Your Weight

According to the Centers for Disease Control and Prevention (CDC), 74 percent of adults have overweight or obesity. Losing weight is far from a simple task, and researchers are looking to gut health as a potential weight-loss therapy. "The gut produces a lot of hormones that are involved in our sense of satiety," says Robbins. "Maintaining gut health also influences hormones that impact appetite regulation. That's increasingly important. The diversity of the biome influences our metabolism and our propensity to gain or to lose weight, or to have weight regulation."

A 2021 study published in *Scientific Reports* tested the effects of a probiotic on weight loss in 70 overweight Bulgarian adults. Without diet and exercise interventions, 35 adults took probiotics, and the remaining 35 took a placebo. After nine months, 40 percent of the probiotic group had lost a clinically significant amount of weight, compared with 3 percent in the placebo group. Further, a 2022 review in *Gut Microbes* found that weight loss in adults with overweight and obesity was significantly associated with improved gut diversity and intestinal permeability.

Dietary fiber is widely associated with promoting weight loss. Your body ferments fiber in the intestines, creating SCFAs, which play a positive role in healthy metabolism. Additionally, a healthy metabolism is vital to optimal blood sugar balance and fat storage and affects weight maintenance. The benefits of SCFAs to weight gain don't end there: They also help lessen inflammation, regulate appetite and induce satiety by acting on hormonal receptors.

Skimping on sleep could be connected to leaky gut syndrome.

Your Gut Helps Mental Health and Mood

Just how the gut-brain axis can influence your mood, mental health and cognition isn't all that clear, but research continues to emerge on the matter. Dubbed the "second brain," your gut has its own nervous system, called the enteric nervous system (ENS). Your ENS is directly linked to your central nervous system (CNS), composed of your brain, spine and nerves. Growing evidence suggests that changes in gut function directly and indirectly impact the CNS and its ability to control the many processes that occur all over the body.

According to a 2018 review in *Integrative Medicine: A Clinician's Journal,* a leaky gut, a sign of poor gut health, is a key feature of brain-related conditions such as Alzheimer's and autism spectrum disorder. According to a 2021 review and meta-analysis published in *Clinical Nutrition ESPEN,* gut bacteria may play a large role in mental disorders. Your gut may even be able to produce neurotransmitters or other brain-enhancing components such as GABA, serotonin and dopamine, according to a 2021 review published in the journal *Nutrients.* Memory, emotion and learning are examples of brain functions that require the full participation of these neurotransmitters. And if these brain-supportive chemicals get out of sync, anxiety, depression and other psychological or brain-related disorders can appear. Probiotics could help regulate neurotransmitters needed for mood balancing. Inflammation can also put a damper on mental health. Brain tissues may be susceptible to inflammation, leading to stress and anxiety or generally shaking up your mood.

Your Gut Enhances Sleep

Scientists have discovered that maintaining good gut function may be essential to a supportive sleep routine. "It's only become recently apparent that melatonin is produced in the gut," says Robbins. "It has always been thought of as being produced by our brain in response to light. That's true, but its production is also influenced by the gut microbiome, so circadian rhythm and sleep-wake cycles. So we know that if we get good-quality sleep, we influence our gut health positively." That process comes full circle, because a healthy microbiome influences proper hormonal production, including melatonin, which then influences your sleep.

Prioritize Plant Foods

Most Americans need to eat a lot more dietary fiber, a primarily plant-based nutrient. "The research does show that eating a fiber-rich prebiotic-heavy diet that is plant-forward, decreased processed foods and decreased animal products is essentially going to ensure that you have a healthy microbiome," says Rao. Plant-based proteins, beans, lentils, legumes, nuts and an overall Mediterranean-style diet support a gut-healthy eating plan. "The American Gut Microbiome Project has shown and has done research that shows that eating greater than 30 plants—again, not just fruits and vegetables but whole grains, beans, peas—has been shown to increase the diversity of our gut and a healthy way," says Rao.

Make Moves

Rao explains the importance of getting enough exercise to improve gut health. "Being sedentary or sitting is the new smoking," he says. "Exercise actually promotes the production of short-chain fatty acids." Consider the ways that you might enjoy becoming more active, and if you're mostly sedentary, always start off slow and build up your stamina. Your gut health will thank you.

"Short-chain fatty acids are really important for us to live, to decrease our inflammation, to ensure that our colon barriers are intact, so it's essential for our overall health to stay active—8,000 to 10,000 steps a day, and also strength training a couple times a week to keep our muscle mass intact," says Rao. Always speak with a medical provider before making changes to your exercise routine. Remember that the best exercise is regular exercise, so go with your gut and pick something you enjoy.

Emphasize Sleep and Manage Stress

Getting proper shut-eye is not something to shy away from. "Persistent sleep deprivation affects gut motility, and also the microbiome, because it affects our dietary choices," says Rao. A shortage of sound sleep may lead to eating excess calories, mainly from foods high in fat and carbohydrates. The CDC says that adults can benefit from a routine seven to eight hours of sleep, which may also lower stress levels. "I talk to patients about stress management and mindfulness, which I think is really big, especially in our modern society where everyone's stressed out all the time," says Rao. "Chronic stress leads to hormonal changes, and that can, again, lead to various issues, such as anxiety and depression, irritable bowel syndrome and all sorts of different disease processes."

A growing body of research suggests that changes to gut function directly and indirectly impact the central nervous system.

Getting out into the sunshine, enjoying a nutrient-rich snack, limiting time spent on social media and being mindful of when and how much caffeine you're drinking are small ways to help lessen your stress. And watch your intake of alcohol. It may contribute to bacterial overgrowth and overwhelm the digestive tract, increasing the chances of inflammation. Rao also mentions an undervalued way to help stress: "Having good family support, good, meaningful relationships and a community where you can find support helps."

Maintaining a healthy population of bacteria in your gut takes time, daily practice and planning, but it is ultimately vital to the optimal health and function of the rest of your body. "Our health is an intentional act—it's not something that happens by accident," Robbins says. "I encourage my patients to take 1 percent of their day to plan, and that's only 15 minutes to think about what health items you'll put in place to have a successful, healthy day. Surely we all can find that much time to look after ourselves." ●

CHAPTER 1

THE SCIENCE OF GUT HEALTH

Research continues to explore the importance of a healthy gut for digestion, chronic disease prevention, a strong immune system and even mental health.

UNDERSTANDING THE MICROBIOME

An unbalanced microbiome can impact your immune system, heart and brain. Balancing microbes is the key to a thriving gut.

BY ASHLEY ABRAMSON
REVIEWED BY MARIA LAURA HADDAD-GARCIA

When it comes to your well-being, a lot of factors are in play, and there's no one marker that can show whether you're healthy or not. Yet, scientific evidence has shown that certain components can be more influential in predicting long-term health and preventing disease. One of them is the state of your gut.

Known as the microbiome, your gut is home to trillions of bacteria and other microbes—both good and bad—and it can influence your health in many ways, from helping you digest food to modulating your immune system. The key to shifting the scale toward the benefits, experts say, is to balance the ratio of good to bad bacteria.

Sound overwhelming? The gut-body connection is complex, and new data is constantly emerging about how it all works, but it's simpler than you think to tip the scale toward health. "The empowering thing is that, unlike your genetic makeup, you have the ability to shape your gut microbiota simply by how you treat it, which means that a big part of your personal health is in your hands," says Megan Rossi, Ph.D., a dietitian and author known online as the Gut Health Doctor.

Gut Health 101

You've probably heard of gut bacteria, and there are plenty of bacteria in your gut. But the term *microbiome* also encompasses many kinds of microbes, such as viruses, fungi and single-celled parasites called protozoa.

Your microbiome starts forming as soon as you're born and continues throughout your life, based on a variety of genetic and environmental factors, ranging from whether you were born vaginally to if you had pets in your home, explains Sarah Robbins, M.D., a Canadian gastroenterologist who founded the gut health platform Well Sunday. Medication, diet and even smoking can

play a role in how your microbiome develops.

All the microbes in your gut communicate with one another and with different bodily systems, which means what's happening in your intestines can drastically impact what goes on in the rest of your body. One of the most important ways this communication happens is your enteric nervous system, the hundreds of millions of nerves that connect your gut to your brain. This means that what's going on in your brain can influence what's going on in your gut, and vice versa. According to a review of multiple studies in the May 2022 issue of *Nutrients*, if the gut-health connection is off-kilter, you may experience an increased risk of stress, depression, anxiety, irritable bowel syndrome, autism, schizophrenia, Parkinson's and Alzheimer's disease.

On the other hand, a thriving gut can promote good health. Your microbes feed on the food you eat, creating and releasing compounds that can affect different parts of your body. First and foremost, your gut microbiome plays a huge role in your digestion, allowing you to process food and absorb nutrients. Certain gut microbes are responsible for producing vitamins we need for health (such as vitamin K and certain B vitamins).

Your microbes also influence your metabolism. Gut microbes produce chemicals such as short-chain fatty acids, or SCFAs, which essentially tell your body when you're full. "The process of appetite regulation involves a decrease in ghrelin, the hunger hormone, and increase in leptin, the fullness hormone," says Rossi. Because short-chain fatty acids are produced when microbes break down fiber, Rossi says this likely explains why it's often fiber intake—independent of calorie intake or type of diet—that results in a healthier weight.

Berry-Kefir Smoothie at eatingwell.com/kefirsmoothie

By helping to prevent metabolic syndrome—a group of ailments that can lead to heart disease, diabetes, stroke and other health conditions—a healthy gut can prevent cardiovascular disease. According to Robbins, certain bad bacteria can produce a substance that, when it enters the bloodstream, could increase a person's risk of developing heart disease by hardening the arteries.

Another role microbes play is training your immune system. Seventy percent of your immune cells reside in your gut, where they learn from microbes how to protect you from infection. "Your microbes essentially teach your immune cells what is worth reacting to and what is safe," Rossi explains.

Via the immune system, your gut can impact skin health. If your immune system isn't up to par, you may experience inflammation, which, Rossi says, can result in inflammatory skin conditions such as acne, eczema, psoriasis and even premature aging.

And thanks to the gut-brain connection, your gut health can directly impact your mental health and brain function. Your gut microbiome helps produce important feel-good chemicals, such as GABA and dopamine. If the communication is off between your gut and brain, your brain may not function optimally.

Finding a Balance

To accomplish all of these important health processes, it's important to have a lot of diverse microbes that can "outcompete" the potentially harmful ones. "Like trees in a forest, you want a lot of different types of microbes in your gut, because they can all do different things," says Robbins. "The more diverse and abundant, the better outcomes there are across the board."

Gut dysbiosis, or an imbalance of gut microbes, happens when you have too many bad microbes and not enough good ones to run important bodily functions. Dysbiosis can happen for a number of reasons, from medications you took when you were a kid to the foods you eat today. And over time, it can wreak negative consequences on your health. An unbalanced microbiome can cause a condition called leaky gut, where the intestinal wall becomes permeable—think of a picket fence with big gaps—and by-products from your gut microbiome escape and enter the bloodstream. This can result in inflammation throughout the body and can cascade into a number of symptoms and diseases that can affect your digestive tract, heart, liver, brain and other vital organs.

Quinoa Salad with Radicchio, Carrots & Dried Apricots at eatingwell.com/quinoasalad

How to Improve Your Gut (and Overall) Health

Improving your gut health isn't as simple as popping a probiotic supplement every morning. "There are thousands of different strains of probiotics, so if you're taking one, you want to make sure you're taking the strain that's been studied to help with what you need," says Kim Kulp, RD, a registered dietitian nutritionist who specializes in gut health. "And even if a probiotic has millions of beneficial bacteria, that could be just a drop in the bucket." A doctor or dietitian well versed in gut health can help you determine which probiotics might help you—but keep in mind that even if you take a probiotic, your gut won't thrive unless you're nourishing it in other ways.

The good news: The same lifestyle factors known to protect your general health are likely to improve your gut function. Research shows getting enough sleep, exercising regularly and reducing stress are shown to improve gut health (along with all the other benefits we know about already).

The most important and well-studied factor in promoting gut health is a diet rich in plant-based foods, such as fruits, vegetables, seeds, legumes and whole grains. The hallmark American Gut Project study shows that people who eat 30 or more different plants a week have the greatest variety of gut microbes. That's partially because soluble fiber, abundantly found in plant-based foods, feeds your good gut microbes so they can grow and function properly. "All your microbes have different tastes, and you want to give them a variety of foods to help them," says Kulp.

Fermented foods, such as kimchi, kefir and kombucha, can help introduce more healthy bacteria to the gut—but beware of extra ingredients that could sabotage their effects. "If something contains a lot of sugar or artificial sweetener, it essentially loses its benefits," says Robbins. Check ingredient labels to be sure.

Ultraprocessed food in general is known to cause harm to your microbiome (not to mention other areas of your health). Too much red meat and not enough fiber-filled plant foods may increase your risk of heart disease, so try to stick with poultry and fish when possible.

Rossi recommends introducing new plant-based foods you've never tried or rarely eat to increase the diversity of your gut microbes and the "skills" they offer you in terms of vitamin production, supporting your metabolism and training your immune system. One tip Rossi suggests is to buy premixed combos of vegetables. For example, instead of a bag of lettuce, go for the mixed bag with arugula, spinach and carrots; rather than just the red pepper, pick up the orange and green as well.

For an easy gut-healthy fix, try adding veggies on top of or in what you normally eat—a handful of greens atop of your whole-grain pasta, or black beans mixed with turkey and onions to fill a taco. "Just slowly start moving in the direction of a plant-forward diet," says Kulp. "The hope is that you'll feel so much better, and you'll realize how easy it can be." ●

WHAT HAPPENS WHEN YOU TAKE PROBIOTICS?

They're usually safe, but more research is needed to understand who could benefit.

BY ISABEL VASQUEZ, RD, LDN
REVIEWED BY MARIA LAURA HADDAD-GARCIA

According to the National Institutes of Health (NIH), 60 million to 70 million Americans have a digestive disease. But even if you don't have a diagnosed digestive illness, you may know that your digestive system's role in breaking down food can impact your mental and immune health. Since maintaining a healthy gastrointestinal tract is important for overall health and well-being, you may be curious whether you should incorporate probiotics into your wellness routine.

Probiotics are living microorganisms often touted for their digestive health benefits. They are found in fermented foods and beverages and sold as dietary supplements. But do they really promote digestive health, and can they help promote other areas of your health, too? Read on to learn what the research shows about the health benefits of taking probiotics and what to look for in a probiotic supplement.

Your intestinal tract is lined with bacteria that form your gut microbiome. The word bacteria often has a negative connotation, but never fear: There are plenty of good bacteria that help you fight illness and promote health. Having a diverse microbiome helps promote not just digestive health but many other aspects of good health. Probiotics are thought to boost your microbiome's diversity by introducing bacteria that can help promote healthy digestion, support immunity and more.

"Probiotics have been shown to increase the amounts of healthy bacteria into our digestive system, which has a positive effect on many areas of our health like our skin health, immunity, metabolism and mental well-being," says Megan Hilbert, M.S., RDN, a registered dietitian who specializes in gut-health nutrition for Top Nutrition Coaching.

While probiotics may have some health benefits, more research is necessary. In many of the existing studies, researchers have struggled to confidently come to conclusions on the health benefits of probiotics because of the wide range of strains studied, mixed results, and a lack of information on the necessary length of treatment required to see an effect.

Improved Gut Health

Gut health is probably the first thing you think of when you think about probiotics, and for a good reason. Studies have shown that probiotics are promising for preventing or treating various digestive illnesses or concerns. According to the NIH, probiotics may prevent antibiotic-associated diarrhea, constipation and clostridium difficile infection (an infection of the colon).

They may also help induce or maintain remission from ulcerative colitis and moderately reduce symptoms of irritable bowel syndrome (IBS), according to the National Center for Complementary and Integrative Health. Additionally, a 2019 study published in the *European Journal of Applied Physiology* found that marathon runners who took probiotics during the four weeks prior to a race had fewer gastrointestinal symptoms and lower severity of symptoms than those who took a placebo.

However, more high-quality research is needed to confirm these benefits. In fact, the American Gastroenterology Association does not recommend probiotics for treating IBS because of insufficient evidence. And as mentioned above, many research reviews are inconclusive because of the wide variations in the strains studied and the mixed results of the studies.

Lower Stress Levels

You've probably heard of the gut-brain connection. Research including a 2019 study published in the journal *Nature Microbiology* has found a connection between your gut microbiome and your quality of life. But can probiotics help?

A small 2021 study published in the *Journals of Gerontology* found that 12-week supplementation in healthy adults over 65 years of age with probiotics containing Bifidobacterium resulted in a significant reduction in inflammation-causing gut bacteria, greater improvement in a mental flexibility test than the placebo group, and greater improvement in stress score than the placebo group. While more research is necessary to confirm these findings, this shows that probiotics may play a role in promoting mental health and preventing mental challenges, specifically for older adults.

Cardiovascular Support

A 2020 systematic research review published in the journal *Nutrients* found that supplementation with vitamin D and probiotics—mainly Lactobacillus, Bifidobacterium and Streptococcus—improved various heart-health metrics, including lipid levels, inflammation and insulin sensitivity. This pairing of supplements improved health more than vitamin D supplementation alone or placebo.

Another systematic review, published in 2020 in the journal *Advances in Nutrition*, found that consumption of fermented dairy—a good source of probiotics—resulted in reduced cardiovascular risk. The researchers concluded that probiotic supplementation paired with fermented dairy consumption could reduce lipid concentrations, a marker of cardiovascular health. However, they noted that there was a wide variety of probiotic strains used in the studies, so the results should be received with caution.

Fewer Upper Respiratory Tract Infections

An updated 2022 Cochrane review found that probiotic supplementation played a role in preventing upper respiratory tract infections and reducing the length of infection. There was a mix of low-certainty to moderate-certainty evidence supporting these findings. The researchers concluded that probiotic supplementation was better than no supplementation or placebo in preventing upper respiratory tract infections.

Better Dental Health

Periodontal disease results from infection or inflammation of the gums, according to the Centers for Disease Control and Prevention. A 2020 systematic review published in *Probiotics and Antimicrobial Proteins* found that probiotics could help treat and prevent infectious diseases in the oral cavity, including periodontitis and dental caries. They also reduced the levels of disease-causing pathogens.

ONE WAY TO GET IN PROBIOTICS IS THROUGH food sources. Probiotics are found in fermented foods, including yogurt, kefir, sauerkraut, miso, kimchi, kombucha and tempeh. Hilbert says she prefers for her clients to get their probiotics from such food sources. "While probiotic supplements can be very useful in some cases, they should be targeted for specific symptoms," she explains.

Eating a well-rounded diet helps promote overall health, including gut health. So in addition to consuming probiotic-rich foods, be sure to incorporate whole grains, lean proteins, unsaturated fats and fiber into your eating plan.

What to Look For in a Probiotic Supplement

Before adding a supplement to your wellness routine, speak with a trusted health care provider to ensure it is safe and doesn't interact with any medications you are taking.

Probiotics supplements are sold as capsules, powders and liquids. Be sure to read and follow the manufacturer's storage instructions: Some products must be refrigerated to preserve the probiotics, since they are living microorganisms.

There are many different strains of probiotics, with species of Bifidobacterium and Lactobacillus being the most common. According to the NIH, these two strains are also considered to be quite safe. According to Hilbert, "there are many different strains of healthy bacteria, and these different strains have different impacts on gut health. Some have been proven to help with IBS symptoms, others help balance vaginal microbiota and help urogenital health, and still others support the immune system. Talking with a gastroenterologist or GI dietitian can help you determine what probiotic strains may be helpful for you to take to target specific symptoms."

Probiotics are measured in colony forming units (CFUs), the number of living bacteria contained in the product. The World Gastroenterology Organisation Practice Guidelines acknowledge that most probiotics on the market contain between 1 billion and 10 billion CFUs per dose. Still, therapeutic benefits may be seen at doses outside of this range, depending on the strain and the health concern.

Some testing has revealed variations in the actual CFUs of a probiotic-containing food or supplement compared to what the label claims. Probiotics can also die off over time, causing the CFUs to vary with age. Ultimately, it's best to speak with your doctor or registered dietitian about the strain and dose of probiotics that might work best for you.

Dietary supplements are not heavily regulated, so the listed doses or ingredients may be inaccurate. For that reason, it is important to find a supplement

that is third-party tested to ensure that the information on the label is accurate.

As Lactobacillus and Bifidobacterium are the most commonly studied species of probiotics and are generally safe, the risk of adverse effects from them is pretty low.

Should You Take a Probiotic?

"If you deal with chronic gas, constipation or even acid reflux, probiotics can help. Certain strains have also been shown to help with non-GI issues like recurrent urinary tract infections or upper respiratory tract infections," Hilbert says.

However, she notes that everyone would benefit from eating more probiotic-rich foods. As far as taking a supplement, the most common side effect is gas. Some cases of infection have resulted in severe illness in immunocompromised patients or those with underlying health conditions, however, so people with these issues should avoid taking probiotic supplements.

The bottom line: Probiotics can play a role in promoting a diverse microbiome. While probiotic supplements show a lot of promise for gut, immune, mental and cardiovascular health, more research is necessary to confirm their benefits and the ideal strains and dosages for various health concerns. They are generally shown to be safe, but speak with your health care provider or a registered dietitian before adding a new supplement to your routine. ●

THE MENTAL HEALTH CONNECTION

Learn how to feed your microbiome and improve your mood all at once.

BY KARLA WALSH
REVIEWED BY MARIA LAURA HADDAD-GARCIA

Even in grade school you probably knew there was a link between your stomach and your brain. Remember those butterflies you felt when you saw your crush in the hall? Or the stomach-in-knots feeling that flared up when you were in trouble?

"Stress can play a major role in tummy troubles, even initiating symptoms when there are no changes in diet. But people are often pretty surprised to learn that a whopping 90 percent of the communication between the brain and the gut is actually moving from the gut to the brain," says Desiree Nielsen, RD, a Vancouver, Canada-based registered dietitian and the author of *Good for Your Gut*.

Read on to learn more about the extensive conversation between your gut and your brain (aka the "gut-brain axis") and how less-than-stellar gut health can impact your mood, plus the best foods to feed your brain and good gut bacteria all at once.

The Gut-Brain Axis and Mental Health

When most of us think of our nervous system, we think of our brain and spinal cord. However, the digestive tract has a complex nervous system of its own. The enteric (or gut) nervous system actually has more nerve cells than the spinal cord, Nielsen says. Those nerves come into play when we eat a meal: Stretch receptors in our stomach activate and relay messages to the brain that we are getting full.

It's not only nerves that play a role here, though. Our gut microbiota, the trillions-strong bacterial population that lives within our gut, is another major factor in the gut-brain connection.

"The type of bacteria living in our gut may impact motility, digestive secretions, inflammation and even neurotransmitter production in our digestive tracts," Nielsen explains.

There's one neurotransmitter in particular that's in high supply in the gut: serotonin, often referred

to as the "feel good" neurotransmitter. A whopping 95 percent of our body's serotonin is made in our gut, not our brain, says Mike Hoaglin, M.D., the San Francisco–based medical director of the telehealth company DrHouse.

When our healthy gut bacteria are fed well, they send signals to the brain that help influence our mood, confirms William W. Li, M.D., an internal medicine physician and scientist in Boston and the author of *Eat to Beat Disease: The New Science of How Your Body Can Heal Itself.* When our gut is happy, the brain responds by releasing mood-boosting hormones including the aforementioned serotonin, plus dopamine and oxytocin. "These hormones are important for improving our mood, so what we feed ourselves literally influences how we feel," Li says. In the short term, poor gut health interferes with signals sent to the brain. Over time, dysbiosis, or an imbalance of gut bacteria, can also lead to chronic inflammation. "When our body has high levels of inflammation, this can also affect the function of our brain, including cognition, mood and irritability," Li says.

A July 2020 study published in the journal *Neuron* suggests that chronic inflammation, while not the only factor or cause, plays a role in depression. Inflammation is an immune system response, and since 70 percent of the immune activity in the body happens in the gut, it stands to reason that when gut health is not so good, the body responds in a wide variety of ways.

"In the 'leaky gut' model, the inflammatory response causes microscopic holes in the gut wall, thereby allowing toxins and microbes to enter the bloodstream," Hoaglin explains. "These toxins may directly irritate the brain or indirectly by improperly activating the immune system. Some of the compounds released by helpful gut bacteria nourish the blood-brain barrier."

Because your gut function depends on—and has an effect upon—the function of your immune and nervous systems, long-term changes in gut health may impact your mental well-being, Nielsen says.

It's difficult to tell if it's the chicken or the egg, Nielsen adds. Digestive conditions such as irritable bowel syndrome (IBS) and inflammatory bowel disease (IBD) have been associated with increased rates of anxiety and depression.

"While the mechanisms are not fully understood, it's likely a combination of the negative impact on quality of life, as well as inflammatory and nervous system effects in the gut itself," Nielsen says. "In one review, people who had both IBS and depression or anxiety had distinctly different microbiomes than those with IBS alone. People with undiagnosed celiac disease may experience brain fog from the significant inflammation and gut barrier changes that occur while the disease process is ongoing."

Everyday digestive symptoms

Pears deliver a hefty amount of fiber, which helps keep your gut healthy.

such as bloating and constipation can affect your mood in smaller ways as well. Regardless of what's going on, "if you don't feel good or are worried about your health, your mood will suffer. Temporary changes in gut function can make you feel sluggish, lethargic or foggy, but they should resolve when the gut symptoms have passed," Nielsen explains.

Since it's becoming so clear that what we eat can affect our mental health and increase the risk for anxiety, depression, brain fog, a down mood and so much more, there's now an entire field dedicated to what our mouths (and microbiomes and minds) consume. According to a 2019 article published in the journal *European Neuropsychopharmacology,* the field is called nutritional psychiatry.

Eating walnuts can help your microbiome produce the colon-friendly compound butyrate.

What to Eat to Support Your Mood

It's crucial to keep in mind that there's no one food or diet that can completely cure or prevent a mental health condition. Any treatment program for anxiety or depression should include guidance from a mental health provider. However, what you eat can support your less-stressed, brighter-mood strategy.

"There are so many factors we don't have control over, such as stress. But many of us have the opportunity to make healthier food choices," Nielsen points out. "Without a doubt, one of the most important things you can do to nourish the gut-brain connection is to eat more whole plant foods, which are rich in fiber and phytochemicals. Research hints that dietary fiber from whole plant foods can help to nourish the gut-brain connection in multiple ways, from boosting the growth of beneficial bacteria in the gut to improving gut barrier function and minimizing inflammation."

Plants, probiotics (good bacteria) and prebiotics (which feed the good gut bacteria) are all smart choices for your stomach—and your spirits. Blueberries, pears, kiwis, jerusalem artichokes, Greek-style strained yogurt, chia seeds, lentils, walnuts and sauerkraut are all expert-recommended items to add to your shopping list.

There's a growing amount of scientific evidence to support the existence of a speedy interstate connecting the gut and the brain, so it's safe to say that the foods we eat can definitely affect our mental health. Eating more fruits, vegetables, nuts, seeds, probiotics and prebiotics certainly can't hurt as part of a plan to help ease inflammation, reduce stress and anxiety, and potentially (eventually) boost your mood. ●

THE EXERCISE ADVANTAGE

While food plays a massive role in supporting a healthy gut, a growing body of research suggests that people who work out regularly get even more benefits.

BY AKANKSHA SINGH
REVIEWED BY MARIA LAURA HADDAD-GARCIA

We all know we need physical activity—that sitting too long is the new smoking and conscious physical movement comes with numerous benefits. The Centers for Disease Control and Prevention recommend 150 minutes of moderate-intensity physical activity each week, along with two strength-training workouts.

In recent years, however, we've come to learn of an added benefit of exercising consistently: improved gut health. When we talk about the gut, we're really referring to the gastrointestinal or GI tract—it's here that we digest and absorb the nutrients from food. The gut is one of the most important organ groups in the body, with more than 100 trillion bacteria, both good and bad, as well as viruses and fungi, among other things. "Good" gut health refers to a balance of these and impacts far more than just your digestion.

Poor gut health may increase the risk of autoimmune conditions (such as a thyroid problem), rheumatoid arthritis (RA), type 1 diabetes, or digestive issues, including irritable bowel syndrome (IBS), constipation, diarrhea, heartburn and bloating. Additionally, gut health can be thrown off balance by a number of factors, including genetics, stress levels, prescription medications (such as those for brain and mental health disorders, including anxiety) and whether or not you smoke.

The Link Between Exercise and Gut Health

It goes without saying that you can offset certain aspects of poor gut health by giving up smoking, getting better sleep and eating a variety of fruits and vegetables. However, exercise is a surprisingly underrated tool for improving gut health.

"Exercise has been associated with a more diverse and beneficial gut microbiota, which refers to the trillions of bacteria residing in our digestive system," explains Prasun Shah, M.D., a gastroenterologist at Memorial Hermann Hospital in Houston.

"Regular exercise can help improve digestion by stimulating the natural contraction of the intestines, promoting the movement of food through the digestive tract." Additionally, explains Shah, regular physical activity has been shown to lower the risk of developing various gut disorders, such as constipation, IBS and colon cancer.

A 2022 review published in the *Journal of Sports Medicine* confirmed an irrefutable connection between moderate physical exercise and gut health. According to the review, regular physical activity influences the gut-brain axis, the two-way communication that occurs between your gut and your brain. The result is an anti-inflammatory state, as far as the regulation of your immune system goes. Essentially, this anti-inflammation reduces the time it takes for any pathogens in your body to make contact with your gut (your gastrointestinal mucus layer, to be exact). Subsequently, this may reduce the risk of colon cancer, diverticulosis and inflammatory bowel disease (IBD) in people who exercise regularly.

Feel-good chemicals released while working out can help reduce inflammation and improve gut function and immunity.

The review points out that while moderate exercise has been shown to improve gut health, "irregular, exhausting or long-lasting training has a negative impact on intestinal microbiota, and the subsequent dysbiosis (an imbalance in the gut microbial community that is associated with disease) may contribute, at least in part, to impaired immune response and general health conditions."

On the other hand, a study published in 2019 in the journal *Nature Medicine* found that the stool samples of marathon runners contained higher levels of a bacteria called Veillonella compared with non-runners. Essentially, Veillonella consumes lactate—a substance our bodies produce during exercise—and turns it into propionate, a short-chain fatty acid (SCFA), which in turn boosts our energy levels. The researchers behind the study concluded that exercising triggers a Veillonella increase in the gut that results in the energy spike associated with running marathons.

Amanda Wahlstedt, RDN, a New York–based registered dietitian nutritionist and founder of the women's health practice Roots to Leaves, explains that because exercise helps with blood sugar regulation, our gut health improves, too. "When we move our body, our tissues are better able to absorb glucose [the sugar in our blood], thus lowering our overall blood sugar," Wahlstedt says. "High blood sugar, on the other hand, leads to something known as advanced glycation end products, which can otherwise impair the gut barrier and lead to inflammation in the gut." Additionally, she warns, "high blood sugar can feed more harmful bacteria, leading to an overgrowth and eventually dysbiosis, which comes with a slew of other symptoms, from irregular bowel movements and bloating to fatigue and skin problems."

In other words, by exercising we can help lower our blood sugar and support gut integrity and health. A 2020 study published in *Aging Cell*, a peer-reviewed scientific journal, found that improved physical exercise in subjects over the age of 65 was associated with lower blood glucose levels and improved gut health. Specifically, the study noted an "increased abundance of Bifidobacteriales and Clostridiales (types of 'good' bacteria)" in participants who exercised.

In addition, gut health, mental health and mood, and exercise go hand in hand, explains Wahlstedt. "When we exercise, the body releases 'feel good' chemicals, such as endorphins and serotonin—these chemicals help to boost our mood, lower anxiety, and reduce stress hormones like cortisol," she says. "[Additionally, they] play an intricate role in gut health, as the digestive system is highly sensitive to stress, which can alter gut motility, permeability and the general gut microbiome." Since the majority of the body's serotonin is produced in the gut, explains Wahlstedt, these feel-good chemicals released while working out can also help reduce inflammation, improve gut function and immunity, and support regular bowel movements.

Shah agrees, adding, "There is growing evidence to suggest that the health of the gut can influence mood and mental well-being. While a healthier gut can potentially boost moods, the opposite is also true: Poor gut health can have negative effects on mental well-being."

Walking is a low-impact way to ease into a new exercise plan.

The gut microbiota play a role in producing neurotransmitters, like serotonin, which are involved in regulating mood, Shah explains. "Imbalances in the gut microbiota have been linked to conditions such as anxiety, depression and stress-related disorders," he states, "so conditions such as inflammatory bowel disease [IBD] or leaky gut syndrome, where the intestinal barrier becomes compromised, can lead to increased inflammation that may affect mental health."

A 2019 study published in the journal *Nature Microbiology* found that people living with depression had an increase in bacteria implicated in Crohn's disease due to inflammation.

To put it simply: Physical activity benefits your gut—and your whole body.

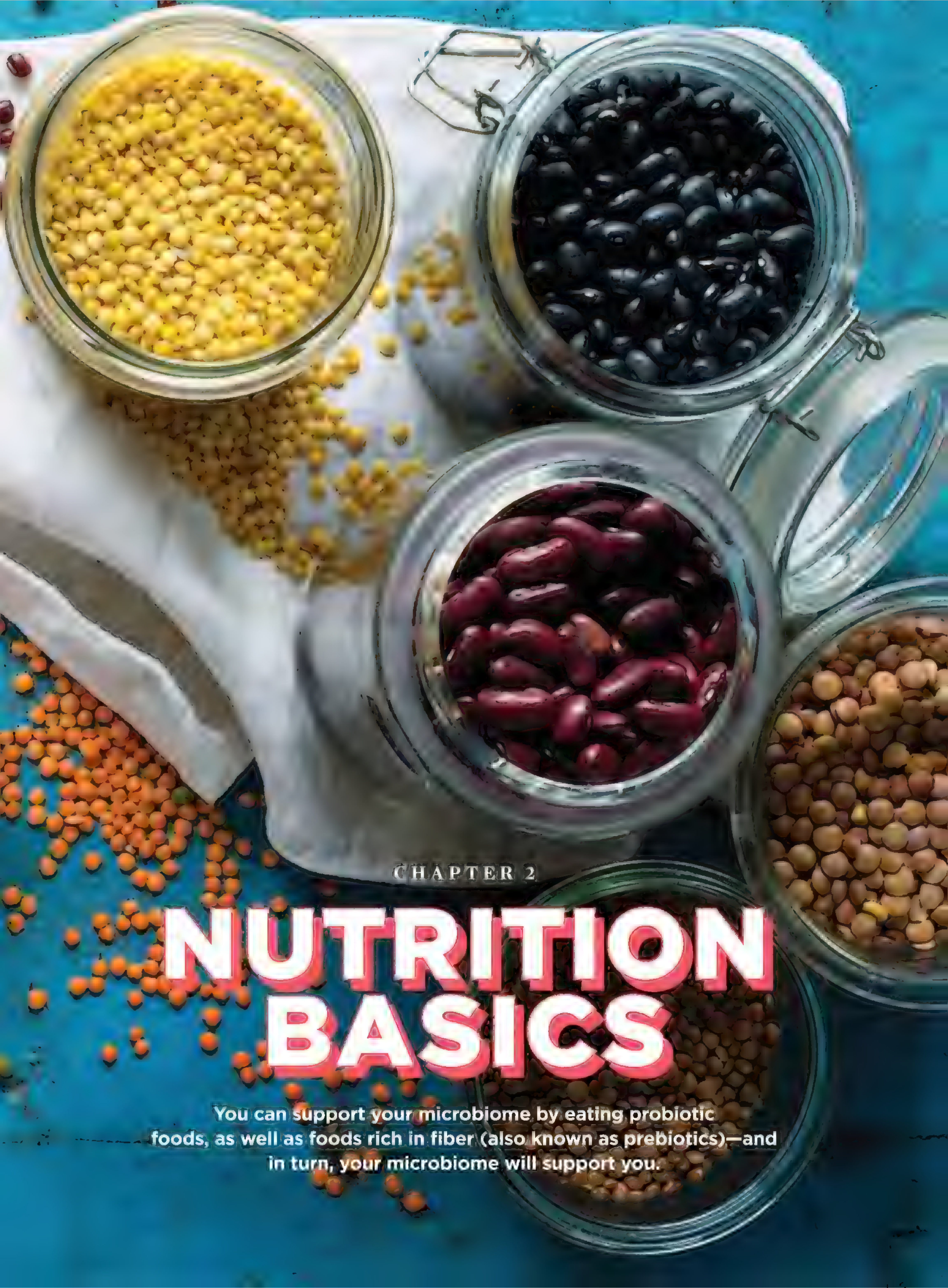
How to Get Started

"I believe in integrating small, consistent movement daily," says Wahlstedt. "A little can go a long way, and something as simple as going for a 10-minute walk after a meal, especially one that is higher in carbohydrates, can help to lower blood sugar and consequently support gut health."

Similarly, drinking enough water can help support proper digestion, nutrient absorption and overall gut health, explains Shah, while "combining regular exercise with a balanced and nutritious diet—fiber-rich foods like fruits, vegetables, whole grains and legumes—supports gut microbiota diversity and promotes optimal gut health."

Shah also recommends embarking upon a consistent, sustainable exercise routine and avoiding overexertion. "While regular exercise is beneficial, excessive or intense exercise can sometimes have negative effects on gut health," he says.

To maintain consistency and perhaps ease into a workout routine, Wahlstedt recommends integrating something like yoga into your morning schedule. "Yoga includes many poses that can 'massage' the intestines and help to support bowel movement regularity," she points out. "Interestingly, if exercise becomes something that is stressful or excessive, it can actually raise stress hormones like cortisol and be counterproductive to overall gut health." ●



CHAPTER 2

NUTRITION BASICS

You can support your microbiome by eating probiotic foods, as well as foods rich in fiber (also known as prebiotics)—and in turn, your microbiome will support you.

HOW FIBER FUELS YOU

Gut bacteria love to feast on fiber. Here's a breakdown of what types have the most impact, plus how to make sure you're getting enough.

BY KAREN ASP
REVIEWED BY JESSICA BALL, M.S., RD

When it comes to gut health, you really are what you eat. Think of your gut as a garden, its inhabitants thousands of microorganisms. If you want your garden to flourish, you need to feed it food that makes it thrive.

The trouble is, there's one nutrient your gut loves best, and if you're like most Americans, you're not giving it nearly enough. That nutrient is fiber, which is found only in plants. "Improving gut health is one of the most important reasons to ensure adequate fiber intake," says Kenneth Brown, M.D., a board-certified gastroenterologist in Plano, Texas, and host of the *Gut Check Project* podcast. "Dietary fiber serves as food for the beneficial bacteria that live in your gut."

When these bacteria digest fiber, they produce short-chain fatty acids (SCFA) like butyrate, propionate and acetate that promote a healthy gut lining, regulate the immune system and provide energy. The benefits don't stop at gut health, though, as fiber also improves digestion, aids with weight management, helps regulate blood sugar levels, reduces cholesterol levels and is associated with a lower risk of heart disease and type 2 diabetes.

Is one type of fiber better than the other, though? And how much do you really need? Here's what you need to know.

The Different Kinds of Fiber

While you might think all fiber is the same, there are several different types. The two main ones are soluble and insoluble. Each functions differently in your body, which is why you need both.

Start with soluble fiber, which includes viscous and nonviscous types. Viscous soluble fiber attracts water to form a gel-like substance in the gut. "This is the type of fiber that may help lower cholesterol and stabilize blood sugar," says Nichole

Dandrea-Russert, M.S., RDN, a registered dietitian and the author of *The Fiber Effect* and *The Vegan Athlete's Nutrition Handbook*. Nonviscous fiber, or what some call fermentable or prebiotic fiber, doesn't form that gel-like substance and instead passes through to the large intestine, where it acts as food for the gut bacteria. Foods with soluble fiber include legumes, apples, pears, vegetables, barley and oats.

While there are many different types of soluble fiber, fructans, which are found in garlic, leeks, onions, asparagus and artichokes, stand out. "They're fermented by healthy bacteria in the gut, which results in the production of SCFA that support the immune system, decrease inflammation and absorb nutrients better," says Dandrea-Russert.

Insoluble fiber is the second type, but unlike soluble fiber, it doesn't dissolve in water. "It moves through the digestive tract somewhat intact, like a broom, sweeping pathogens and carcinogens along the way, pulling them out of the body and excreting them in the stool," Dandrea-Russert explains. Foods with insoluble fiber include edible fruit peels, seeds, whole-wheat flour, wheat bran, nuts, beans, green beans and potatoes. Among the insoluble fibers is cellulose, which plays another important role in gut health. Cellulose is found in plant cell walls, and studies show that a lack of cellulose in the diet may disrupt the gut microbiome and lead to inflammation, Dandrea-Russert says. Cellulose is found in many whole grains, fruits, and vegetables like broccoli and cauliflower.

How Much Do You Need?

Fortunately, most plants contain a combination of soluble and insoluble fiber, so you don't have to keep tabs on how much of each you're munching. And if you're getting confused about the different types of fiber, simply aim to eat a variety of plants, focusing on your total dietary fiber, Dandrea-Russert says.

The USDA recommends that men and women 50 and younger consume a minimum of 38 grams and 25 grams a day, respectively. (That's based on a diet with 14 grams of fiber per 1,000 calories per day.) If you're older than 50, men are advised to consume 30 grams a day, women 21 grams a day. Sadly, a whopping 95 percent of Americans aren't meeting these recommendations.

What if you want to eat more than what is recommended? That's not a problem, as people who are eating mostly or all plant-based foods often get up to 40 to 50 grams of fiber a day. You may want to increase your fiber intake gradually, to avoid any digestive distress. If you are fully plant-based, you'll also need to eat about 10 percent more protein, since fiber binds to protein. Choose foods such as tofu, hemp seeds and soy milk, which are lower in fiber, making their protein availability higher. As long as you can do that and are tolerating higher amounts of fiber, consuming more than is recommended shouldn't be an issue and may even be beneficial, further protecting you against heart

Sheetpan Spiced Chickpeas & Sweet Potatoes with Herby Yogurt at eatingwell.com/sheetpanchickpeas

disease, type 2 diabetes and colorectal and breast cancers, according to Dandrea-Russert.

Take Cues from Your Body

You don't need to visit your doctor or dietitian to determine if what you eat regularly contains enough fiber. Just key in on certain signals from your body.

For starters, if you're eating enough fiber and staying hydrated, you should be able to regulate hunger and fullness more effectively and avoid or alleviate constipation, Dandrea-Russert says. More important, you should also have regular bowel movements, largely because fiber adds bulk to your stool and helps it move smoothly through your digestive system.

How many bowel movements you have, though, is an individual thing. "Some people might be fine with three times a week, while others might be normal once or twice per day," Brown says. The key factor is regularity.

On the flip side, too little fiber won't just leave you with constipation—you may also develop hemorrhoids and diverticular disease, Brown says. And since foods with little to no fiber are less filling, you may find yourself more hungry in between meals.

How to Fit in More Fiber

If you're ready to add more fiber to your diet, start slowly. If you overdo it, you could experience gas, bloating and increased bowl movements.

When you consume various types of fiber, you're awakening bacteria in your gut that may have been sleeping for a long time. "When they wake up and start munching on the fiber, they might produce gas compounds," Dandrea-Russert says. As your body adapts to the fiber, these effects should diminish. For some people, it takes only a week or two; for others, up to six weeks.

Also, drink more water as you add fiber, which will help it move through your digestive system more easily, Brown says. Here are a few simple strategies to boost your fiber intake:

Start your day with fiber. Whether it's a bowl of oatmeal topped with nuts and berries or whole-grain toast with avocado, a high-fiber breakfast is an easy way to kick off a fiber-fueled day, Brown says.

Make high-fiber swaps. This is an easy way to boost your fiber intake without missing out on the foods you love, Dandrea-Russert says. Instead of using an egg for baking, use a flax or chia egg (one egg equals one tablespoon of flax or chia seeds plus three tablespoons of water). Or swap white bread or white pasta for whole-grain bread or pasta.

Think in threes. Add three colorful plant-based foods to each meal, Dandrea-Russert says. For instance, add red tomato, purple onion and leafy greens to your sandwich. Adding such variety will help create more diversity in the types of bacteria living in your gut, which will lead to better health. According to the American Gut Project, people who ate at least 30 different plants each week had a more diverse gut microbiome than people eating 10 or fewer types of plants each week.

Snack smart. When you need a snack, reach for fiber-rich foods like an apple, carrots with hummus, a handful of almonds or a small serving of popcorn. Choosing these will keep your digestive system running smoothly, Brown says.

Add one new bean a week. Although beans come with a ton of health benefits—the longest-living folks in the world, who live in what's called the Blue Zones, eat about a half cup to a cup a day—they tend to be one of the biggest culprits when it comes to gastrointestinal complaints, Dandrea-Russert says. Easing them in can help alleviate some of these symptoms. You can always add Beano to your meals or opt for dried over canned beans so that you can cook them down further and make them easier to digest.

Before cooking dried beans, soak them for 24 to 48 hours, changing the water halfway through and then using fresh water to cook them. Add a piece of kombu or fennel seeds to the cooking water to decrease some of those gas-causing compounds, Dandrea-Russert suggests.

Go plant-based for one meal a day or one day a week: Think about the dishes you love that traditionally use meat or dairy, and find plant-based recipes for those dishes online. "When a recipe uses plant-based ingredients over meat and dairy, it's naturally going to have more fiber than the traditional version of the dish," Dandrea-Russert says.

Fiber is too important a nutrient to ignore. Eat enough and your gut will thank you for helping its health-promoting garden to grow. ●

Air-Fryer Tempura Artichoke Salad with Lemon-Dill Dressing at eatingwell.com/artichokesalad

THE BEST PROBIOTIC AND PREBIOTIC FOODS

Probiotics can play a role in promoting a diverse microbiome, while prebiotic foods feed good gut flora.

BY JULIE FLOYD JONES
REVIEWED BY MARIA LAURA HADDAD-GARCIA

Gut health isn't just about keeping tummy troubles away. While improving your gut health can reduce gastrointestinal issues, it is also key in supporting and regulating body functions and keeping your systems running healthily. Simply put, your gut, also known as your gastrointestinal or GI tract, breaks down food to provide essential nutrients throughout the body. Your GI tract is also essential in fighting off infectious agents and is linked to healthy immune, endocrine and cardiovascular systems. The health of your gut also impacts the health of your brain. A healthy gut supports a healthy mood and promotes mental wellness. In fact, research has shown that gut bacteria may even be associated with your risk of depression.

It should come as no surprise that the foods you consume daily play a big role in keeping your gut healthy. To better understand the foods that can immediately impact your gut health, we got expert advice from Carolyn Williams, Ph.D., RD, a registered dietitian and culinary expert.

When looking for foods that significantly impact your gut health, Williams recommends focusing on minimally processed whole foods, particularly fermented foods and fiber-rich foods like vegetables and fruits. These gut-healthy foods typically fall into two groups: probiotics and prebiotics.

What Are Probiotics?

Probiotics are beneficial bacteria in fermented foods. A 2021 study published in the journal *Cell* found that adding probiotic foods to your daily plan is one of the best ways to boost your overall gut health. "Sauerkraut, cottage cheese and yogurt with live cultures, kimchi and kombucha are all whole-food sources of probiotics," Williams says.

However, she notes that there is a disconnect between perception and reality regarding probiotics. "Probiotics are the good, live bacteria that live in the gut. People tend to think that probiotics are the over-the-counter supplements your doctor may recommend to counteract the negative effects of an antibiotic. But probiotics are those good gut bacteria," Williams says.

When purchasing these foods, keep in mind that heat kills many types of bacteria—both bad and good—so most probiotic foods in grocery stores are refrigerated. Read ingredient labels to ensure that you choose brands that include live active cultures.

As far as supplements, Williams explains that while they may not harm you, the research about their effectiveness is inconclusive. "Because there are thousands, even millions of strains of probiotic bacteria, it's impossible to cover all strains with one supplement; in fact, most only include a few strains," she says. "And for a supplement to be truly beneficial, you'd want to know exactly which strains you need in order for it to be effective." In short, whole-food sources of probiotics are still your best option.

6 Probiotic Foods to Eat

Williams recommends eating probiotic foods daily or even multiple times a day. Including these powerful probiotic foods in your diet can help you improve your gut health quickly.

Yogurt Plain nonfat Greek-style strained yogurt is a powerhouse for gut-healthy probiotics and protein, which support the immune system. Try pairing probiotic-rich yogurt with prebiotic-filled oats and fruit for a delicious gut-health power meal. Read the ingredient label to ensure that the yogurt you choose isn't full of added sugar.

Kimchi A staple in Korean cuisine, kimchi is a spicy fermented cabbage dish filled with probiotics. In addition to its effective gut health properties, kimchi is made with cruciferous vegetables that contain nutrients with powerful antioxidant properties that may help prevent some types of cancer.

Kefir This dairy-based drink often contains more probiotics and protein than regular yogurt does. A 2021 review published in the journal *Frontiers in Nutrition* indicates that consuming kefir may help improve your gut microbiome by helping to reduce inflammation and gut permeability. Additionally, research such as a 2021 study published in the journal *PharmaNutrition* suggests that kefir may help reduce your risk of cardiovascular disease. As with yogurt, check the ingredient label for added sugar.

Kombucha The fermented, fizzy tea drink may contain fruit juice, spices or other flavors. Kombucha is loaded with probiotics and may be one of the easiest ways to boost

Mushroom Risotto at eatingwell.com/mushroomrisotto

Pineapple [illegible]
Mai Tais
eatingwell.com/
maitai

Kimchi-Tofu Soup with Sesame & Egg at eatingwell.com/kimchisoup probiotic intake each day, since there are so many delicious flavors to pour and enjoy.

A 2021 study published in *Critical Reviews in Food Science and Nutrition* showed that consuming kombucha can help protect against comorbidities associated with obesity, such as high cholesterol and type 2 diabetes.

Sauerkraut A staple in German cuisine, sauerkraut is a pickled cabbage dish similar to kimchi. Avoid sauerkraut that's been pasteurized and is sitting on a grocery shelf at room temperature. Purchase it from the refrigerated section, and read the label to ensure that it includes active, live cultures for gut-health benefits.

Tempeh A traditional Indonesian food made from compressing fermented soybeans into a cake-like form, tempeh is both a probiotic (due to the fermentation) and a prebiotic (due to the soybeans), making it one of the most important foods to stimulate probiotic bacteria growth in the gut.

Pickled Garlic Cloves at eatingwell.com/pickledgarlic

What Are Prebiotics?

Prebiotics are types of fiber that are not digested in the small intestine and instead travel to the colon, where they are fermented to provide "food" for gut-healthy probiotics. Williams explains, "The good bacteria, or probiotics, need food to live on. Think of prebiotics as food for the probiotics." Fiber-rich foods offer a wide range of health benefits: They keep you full longer, help reduce your risk for certain cancers, prevent blood sugar spikes, lower cholesterol and improve your heart health.

The easiest way to get enough prebiotics into your diet is by eating plenty of vegetables and fruit. "Most vegetables and fruit have fiber. So if you are getting your five servings of vegetables and fruits every day, you are probably doing OK with prebiotics," Williams says.

6 Prebiotic Foods to Eat

Artichokes Pinecone-shaped artichokes are an excellent source of inulin, a type of fiber that acts as a prebiotic. Artichokes also provide other benefits, such as improving bone health, protecting your brain and supporting your blood pressure.

Dragon fruit Pitaya (aka dragon fruit) isn't just a beautiful, brightly colored fruit but also provides health benefits, including gut-related ones. Dragon fruit is rich in fiber and is one of the best fruits to help relieve constipation.

While research in humans is limited, a 2019 study in mice published in *Biomedicine & Pharmacotherapy* suggested that the type of fiber found in dragon fruit helps bulk the stool and provides a laxative effect without producing diarrhea—all of which may help support a healthy gut. Try including dragon fruit in your morning smoothie for a beautiful, delicious, gut-healthy treat.

Garlic Garlic works overtime for gut health as a prebiotic, providing food for the good bacteria in your gut. It also has antibacterial and antiviral properties that help support your immune system.

There are tons of ways you can add garlic to your diet, from delicious melting potatoes to cozy, savory casseroles.

Peach Crisp at eatingwell.com/peachcrisp

Mushrooms High in prebiotic fiber, mushrooms also contain several compounds that may have medicinal properties. A 2021 study published in the *Journal of Functional Foods* indicates that consuming mushrooms may positively influence your blood sugar and help prevent gastrointestinal diseases and even some types of cancer.

Oats Improving your gut health can begin with one of your favorite breakfasts. Oats are one of the best prebiotic foods to quickly impact your gut health. Oats provide a balanced source of complex carbohydrates, plant-based protein and fiber, making them an excellent choice.

As with probiotic yogurt, you'll want to limit your intake of oatmeal high in added sugars. Instead, look for plain instant oatmeal, or use old-fashioned or steel-cut oats to make your own oatmeal and add fresh or dried fruit for added sweetness.

Soybeans Beans are often touted for their nutritional value. They are a plant-based source of protein and provide complex carbohydrates, fiber, vitamins and minerals. Because of this nutrient mix, consuming beans, such as soybeans, may be one of the best ways to improve gut health with prebiotics. Further, 2021 research published in the journal *Molecules* showed that soybeans are one of the best-known sources of prebiotics, positively impacting your gut health.

Other Factors That Can Impact Your Gut Health

Knowing which foods you may want to limit may be as important as knowing which foods to include when it comes to your gut health. Ultra-processed foods, artificial foods, added sugar, preservatives and additives can wreak havoc on your gut.

Williams points out that both mental and physical stress are detrimental to gut health, and so for that reason, and many others, it's important to focus on managing the stress in your life. Furthermore, studies such as a 2021 review published in *Frontiers in Nutrition* indicate that focusing on a healthy lifestyle by including moderate-intensity exercise and managing stress are also essential in promoting gut health.

To truly improve your gut health and positively impact your overall health, focus on eating a diet rich in probiotic and prebiotic foods daily. "You'll repopulate the gut bacteria with probiotics and then keep the probiotic bacteria healthy with prebiotics," Williams says.

Building consistent, daily practices to include these probiotic and prebiotic foods will make the most significant impact over time. ●

Why Smoothies Are More Gut-Healthy Than Juice

Optimize your drink order to support your digestion, heart health, immune system, mood and more.

BY KARLA WALSH
REVIEWED BY JESSICA BALL, M.S., RD

Not everyone has the time to sit down to a full multicourse meal—or even a breakfast sandwich or salad from the deli—every day. We totally get that! But we're also not fans of skipping meals. For this reason—and because we've learned time and again that polyphenols and other plant compounds are vital to supporting overall health and gut health—sippable solutions that can be enjoyed on the go, at your desk, or when you're hustling back from your workout offer a viable and delicious option.

As we learn more about the systemic impact of good gut health—including how it relates to sleep, weight, digestion, immune health, mood and more—the more we try to keep it top of mind with as many food-related decisions as possible.

In terms of optimizing gut health, are smoothies or juices healthier? Both are awesome ways to get closer to the goal of consuming 30 or more different fruits and vegetables per week—a stat that a seven-year study of the human microbiome suggests is ideal for gut health. Variety is the spice of life, after all.

It certainly doesn't have to be one or the other, says Will Bulsiewicz, M.D., a gastroenterologist based in Charleston, South Carolina, and the *New York Times* best-selling author of *Fiber Fueled*. "But I do have a preference if you twist my arm behind my back," he says. "I like both, but if you only give me one choice, I'm going to definitely take the smoothie. The smoothie actually continues to contain all the dietary fiber. We want our fiber, and that's why I'm going to opt for the smoothie."

If a smoothie recipe uses the whole fruit, including the skin and flesh, it should deliver the same amount of fiber as if you ate that fruit whole, according to the Harvard T.H. Chan School of Public Health. The pros: Since the fiber is blended up a bit, it might be easier for those with sensitive stomachs to digest. Plus, smoothies can easily feature other gut-health foods like yogurt or kefir. The cons: Drinking rather than eating produce tends to be less satisfying, the Harvard pros add, and smoothies can easily become vehicles for added sugar.

As far as juice goes, it "allows you to enjoy all of these fruits and vegetables and is very easy to consume," Bulsiewicz says. "You still get the polyphenols, and you still get a little bit of fiber; you just want juices to be an accessory and not a centerpiece of your eating plan."

That's because to make fruit or vegetable juice, the fiber is stripped away and left in the "pulp" byproduct. If you juice at home, you can repurpose that pulp. But if you're ordering out, chances are high that it will simply get composted or tossed—and you certainly don't get to share it with your good gut bacteria.

Bottom line? Smoothies and juices can both be part of a well-balanced, produce-packed, gut-friendly diet. But smoothies have the gut-health edge.

Anti-inflammatory Breakfast Smoothie at eatingwell.com/breakfastsmoothie

HOW TO EAT TO MANAGE IBS

Restrictive elimination plans such as the low-FODMAP diet aren't meant to be long-term. Here's how to navigate an IBS diagnosis.

BY CHRISTINE BYRNE, M.P.H., RD
REVIEWED BY JESSICA BALL, M.S., RD

If you've been diagnosed with irritable bowel syndrome (IBS) or suspect you have it, you might feel a bit overwhelmed by all of the often conflicting information out there about how to manage the condition and which diet plan to follow.

IBS itself can be difficult to understand. "IBS is classified as a syndrome because it's defined by the presence of certain symptoms, not as a homogeneous disease," explains Ali Rezaie, M.D., medical director of gastrointestinal motility and assistant professor of medicine at Cedars-Sinai Medical Center in Los Angeles. "Some of the most common symptoms are abdominal discomfort and bloating, diarrhea, constipation, incontinence, distension and the inability to tolerate certain foods."

If you experience any of these symptoms on a regular basis, it's important that you talk to your doctor and set up an appointment with a gastroenterologist. The syndrome typically presents in one of three ways: IBS with constipation, IBS with diarrhea or IBS with alternating constipation and diarrhea. There's no single way to manage it, so a gastroenterologist will recommend an individualized treatment plan based on your particular symptoms.

It may seem overwhelming. But don't stress. Here is guidance about foods and drinks to consume and limit, plus how your diet can help to regulate IBS.

The Low-FODMAP Diet

If you get an IBS diagnosis, your doctor may recommend a low-FODMAP diet in order to identify food triggers. Since IBS is a digestive disorder, food plays a big role in managing symptoms. "The first thing to try is a low-FODMAP diet," says Rezaie. It's an elimination plan during which you cut out certain carbohydrates—FODMAP is an acronym for fermentable oligo-, di- and monosaccharides and polyols. These carbs are resistant to digestion and feed

Peppermint and chamomile tea may help ease IBS symptoms.

your gut bacteria. You eliminate all foods containing FODMAPs (certain fruits and vegetables, grains, beans, legumes, dairy and sugar alcohols) and then reintroduce them one at a time in order to see which of these foods, if any, are causing your symptoms.

Note that the low-FODMAP diet is a diagnostic tool used to identify trigger foods and is *not* an eating plan that should be followed long term. Most FODMAP-containing foods—everything except sugar alcohols—are nutrient-dense, which means that anyone without a sensitivity can and should be eating them. "You need to start reintroducing foods within 12 weeks, or a low-FODMAP diet may lead to nutrient deficiency," warns Rezaie.

Limit Carbonated Beverages

That said, it's a good idea to cut out carbonated beverages and sugar alcohols. Excess gas and bloating are common symptoms of IBS. "Carbonated beverages introduce more gas to your digestive system, which leads to more bloating," says Leslie Bonci, M.P.H., RD, author of the *American Dietetic Association Guide to Better Digestion*.

Likewise, sugar alcohols—used as a sugar replacement in gum and certain low-carb foods—can cause a lot of bloating and distension. Common sugar alcohols are sorbitol, xylitol, maltitol and mannitol. Check ingredient labels and steer clear of anything containing them.

Low-Carb Diets and IBS

"Following a lower-carb diet might help," says Rezaie, "but your body needs carbs. You can't completely take them out." He does acknowledge that some of his patients have reported improved symptoms after adopting lower-carb diets.

But it's possible to see similar improvements without cutting out the carbs. Bonci recommends that her patients with IBS follow the same guidelines for balancing meals as do healthy individuals. "One-third of your plate should be protein, and keep at least one-third for fruits and vegetables. And no more than one-third should be starchy carbs," she says. "[An IBS plate] only differs from a regular plate in that the types of these fruits, vegetables and starches might be different." Again, it comes down to identifying your specific triggers and reducing or eliminating them so that you don't need to cut out entire food groups.

Managing IBS Symptoms

Many people can't manage their IBS through diet and lifestyle changes alone, and that's OK. "In moderate to severe IBS patients, you won't see 100 percent improvement through diet alone," Rezaie says. "In those cases, you need to target it with medication." There are several medications available to treat IBS. Some are antibiotics that target problematic bacteria, while others target neurotransmitters in your gut. The type of medication a patient needs depends on their unique set of symptoms.

Another important part of managing IBS is trying to manage your anxiety about it. "Any chronic disease will cause anxiety, and that will accentuate the problem," says Rezaie. It's important to accept that you have IBS and then to work with an expert on a treatment plan. Beyond that, a healthy lifestyle that includes adequate sleep, a balanced diet, exercise, stress management and mindfulness is what will be most helpful in sustainable IBS management, as opposed to constantly trying new diets. ●

What Is the GAPS Diet—and Should You Try It?

The elimination-based eating plan is touted for healing the gut. But is it really healthy? A registered dietitian weighs in.

BY LAINEY YOUNKIN, M.S., RD, LDN
REVIEWED BY JESSICA BALL, M.S., RD

The GAPS diet is a restrictive elimination diet aimed at promoting gut health and "healing" the gut. The premise behind the plan is that a number of health conditions, specifically digestive disorders and conditions affecting the brain, such as autism and attention deficit hyperactivity disorder (ADHD), might be caused by an unhealthy gut or leaky gut. Proponents of the GAPS diet claim that healing a leaky gut might improve or cure these conditions.

GAPS originally stood for Gut and Psychology Syndrome, a term coined by Natasha Campbell-McBride, M.D., who holds degrees in medicine, neurology and nutrition, to describe connections between the digestive system and the brain. Campbell-McBride created the GAPS diet in 2004 after researching the relationship between food, nutrition and gut and brain health while seeking answers for her own child, who had been diagnosed with learning disabilities. She has since also defined Gut and Physiology Syndrome, concerned with the gut's potential role in some chronic physical conditions.

There are three phases of the GAPS diet: the introduction, the full GAPS diet and the reintroduction. There is also a dairy introduction phase. All are explained in detail in the books *Gut and Psychology Syndrome* and *Gut and Physiology Syndrome*. If you're looking to follow the GAPS diet, Campbell-McBride recommends you purchase the books so you can follow each stage as recommended.

The introduction part of the diet has six stages, with the claimed goal being to heal a leaky gut before moving on to the full GAPS diet. A leaky gut refers to holes or cracks in the lining of the intestines. If there are cracks in the intestinal barrier, undigested food or bacteria can seep out, causing inflammation and digestive issues.

The GAPS diet emphasizes vegetables and fermented foods, both of which have been linked to gut health. Studies show that eating a variety of fruits and vegetables, olive oil and fatty fish can help maintain a healthy balance of bacteria in the gut, whereas a diet high in fat and carbohydrates and low in fiber (a traditional Western diet) may cause an imbalance of gut bacteria.

There are no peer-reviewed clinical studies assessing the GAPS diet or proving it effective at healing the gut or treating the conditions it claims to cure. This dietitian does not recommend the GAPS diet, given that there is no research to back its claims or efficacy. In addition, the diet is extremely restrictive, time-consuming and expensive. There are more effective, science-backed ways to improve digestive and neurological disorders that incorporate small, sustainable changes. We highly recommend working with a doctor and dietitian who specializes in the condition you seek help for and who can provide specific solutions tailored to your particular condition and lifestyle.

Carrot Soup at eatingwell.com/carrotsoup

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HOW OFTEN SHOULD YOU GO?

It's important to know what's normal and what's not so you can seek help and get your GI tract back on track.

BY KARLA WALSH
REVIEWED BY MARIA LAURA HADDAD-GARCIA

It's time to talk sh-t. No, we're not referring to gossiping about the drama on the latest episode of a Bravo reality show; we're talking about poop. Stool. Feces. Whatever you want to call it, and as awkward as it may feel to talk about it, we should be doing so a lot more, suggests Will Bulsiewicz, M.D., a Charleston, South Carolina, gastroenterologist and the best-selling author of *Fiber Fueled*.

"Pooping is somewhat of a taboo topic, but everyone does it, and it's extremely important to our health," Bulsiewicz says. He explains that how often you poop is related to bowel transit time, or how long what you eat stays inside you. Bulsiewicz points out that transit time is linked to gut microbiome changes, citing a 2021 study published in the journal *Gut*. Poop is also linked to heart health; in fact, people who pooped fewer than three times per week had a greater risk of heart disease, heart attacks and stroke, according to a 2020 study in the journal *BMJ Open*. That's why it's important to share science-backed insights to help you know what's normal—and what's not—when it comes to your stool. Read on and study up so you can separate what's healthy from what's not.

So What's "Normal"?

Normal poop, called stool by medical professionals, is brown, well formed, sausage shaped, uniform and thick. It should be fairly easy—or not too much of a struggle—to pass. Most people poop once or twice each day, and the most common time of day is either upon waking up or after breakfast, Bulsiewicz says.

The frequency with which you poop and the time of day can vary with normal stool, confirms William W. Li, M.D., an internal medicine physician and scientist in Boston and the author of *Eat to Beat Your Diet*. Our gut is like our fingerprints—unique to the individual—so the best course of action is to become familiar with your routine and notice when you seem to be straying from it.

"The most important thing is that you don't have discomfort. If you're not having regular bowel movements or feeling fully evacuated after going to the bathroom, you may be experiencing constipation," says Kenneth Brown, M.D., a gastroenterologist in Plano, Texas, and the host of the *Gut Check Project* podcast.

Are You Constipated?

Here are the symptoms of constipation, per the National Institute of Diabetes and Digestive and Kidney Diseases: fewer than three bowel movements per week; hard, dry stools that are difficult to pass; and feeling like there's more stool you'd like to eliminate but can't. While it can be short term and relieved by the lifestyle adjustments noted below, constipation can also become a chronic challenge. In that case, it's not just uncomfortable in terms of the bloating and abdominal pain—constipation can also be detrimental to your health, Brown says.

A diet with fiber-rich foods such as fruits, vegetables, whole grains, seeds, nuts, beans and legumes can help promote regular bowel movements.

According to Stanford Medicine Health Care, the potential complications of chronic constipation include hemorrhoids, rectal bleeding, anal fissure (a small tear in the anus), fecal impaction (a hard, dry stool that cannot be passed) and rectal prolapse (when the large intestine pushes out of the rectum).

"It's perfectly normal not to have a bowel movement every single day. But if more than several days have gone by without a bowel movement, especially if you have discomfort or any swelling or pain in your lower abdomen, it's important to seek medical attention to evaluate if there is an obstruction blocking normal bowel movements," Li says.

On the flip side, if you find that you're passing stool more than three times per day, you're experiencing chronic diarrhea or urgency, or you're waking up at night to poop, those are all issues that are worth discussing with your doctor, according to Bulsiewicz.

Factors That Affect How Often You Go

How often you poop is personal. You may be able to (partly) blame your poop frequency on your parents—research suggests that there are genetic factors that affect stool consistency and frequency, according to a study published in the journal *Cell Genomics* in 2021.

Genetics may also influence your gut microbiome. Your microbiome affects many responses in your body, including your bowel movements. For example, an imbalance of gut bacteria, called dysbiosis, may contribute to chronic constipation, according to 2019 research in *Frontiers in Medicine.*

What you've eaten in the past few meals, the amount of fiber you're consuming in general, and your hydration levels can also impact how much and how often you poop, Li says.

Many underlying medical conditions can affect your bowel habits, including digestive conditions such as irritable bowel syndrome (IBS) or inflammatory bowel disease (IBD), as well as other medical problems, such as thyroid disease.

Certain medications can cause constipation or diarrhea as a side effect. For instance, NSAIDs (such as ibuprofen), metformin (for diabetes), heartburn medication and chemotherapy drugs can all trigger diarrhea, per the National Library of Medicine.

How to Stay Regular

To hit the sweet spot of around one poop per day, or to fall into a steady stool routine that feels good for your gut, try these gastroenterologist-recommended strategies. Bulsiewicz likes to compare fiber to "a canoe that floats your poop through your intestines." A well-balanced diet containing fiber-rich foods such as fruits, vegetables, whole grains, seeds, nuts, beans and legumes can help promote regular bowel movements. Insufficient fiber intake can lead to constipation or irregular bowel movements. Add high-fiber foods to your next supermarket list to make hitting your 28- to 34-gram-per-day fiber goal easier.

Using that same boat reference, Bulsiewicz says water helps "float the poo canoe down the river. When you don't drink enough water, your canoe will get stuck on the rocks." Since normal poop is 74 percent water, per an October 2021 study in the

journal *Nutrients,* water intake can make a big difference in the texture of your stool—and how easy it is to pass. You can tell that you're hydrating enough by looking at your urine. It should be pale yellow (similar to straw or lemonade) or lighter. If it's darker and more like apple juice, drink your water.

Regular exercise can also help stimulate the muscles in the digestive tract and promote regular bowel movements. "It helps the canoe move briskly downstream instead of lingering too long," Bulsiewicz says. (No wonder many doctors deem physical activity the top activity to help you poop.) Aim for—or work up to—150 minutes of moderate-intensity aerobic activity or at least 75 minutes of vigorous-intensity cardio per week, plus two total-body resistance training sessions. Yes, walking absolutely counts as a workout.

When to See a Health Care Provider

The "red flag symptoms" related to digestion may indicate a potentially serious underlying condition and warrant prompt medical attention to determine the underlying cause and to receive appropriate treatment, says Bulsiewicz. "Severe, worsening or constant abdominal pain that lasts for several hours or days may be a sign of a serious issue, such as appendicitis, a bowel obstruction or an inflamed gallbladder," he says.

Dropping pounds without making any major changes to your diet or exercise routines? Bulsiewicz says this could be indicative of a digestive disorder, such as inflammatory bowel disease, celiac disease or even cancer.

If you consistently have trouble swallowing or experience pain when swallowing, this could signal an injury or illness within your esophagus.

Black, tarry stools or bloody stools may be a sign that there's bleeding in the gastrointestinal tract, which could be caused by ulcers, diverticulitis, hemorrhoids or cancer, Bulsiewicz says. If stools are regularly extremely thin, this may point to growths (including cancerous tumors) in your colon that are preventing stools from shaping normally. Yellowing of the skin and eyes can indicate liver disease or bile duct obstruction.

How Long Can You Go?

Food takes about six to eight hours to work through your stomach and small intestine, and then about another one and a half days to go through your large intestine for additional digestion. In total, and on average, it takes about two to five days for something you eat to make its way through your digestive system and be eliminated through your stool. If you have fewer than three bowel movements per week, you qualify as having constipation. Again, what's most important is that you watch for any stark changes in your patterns.

There's no one "perfect" cadence for pooping, but the average healthy person poops about once or twice per day, according to gastroenterologists. Pay attention to your stools, and watch for any of the red flag symptoms that might be a sign of an underlying illness, gut-related or otherwise. ●

6 Normal Reasons You're Using the Bathroom a Lot

Many factors can contribute to frequent bathroom trips for number two. Here are six of them.

BY GABY McPHERSON, M.S., RDN, LDN
REVIEWED BY JESSICA BALL, M.S., RD

Poop habits, characteristics and frequency can tell a story about your health, though not all toileting changes should put you into panic mode. While poop varies from person to person, how often one goes depends on many factors, such as eating habits, hydration status and age. There's no set number of times a day someone should do number two. That said, most people go between one and three times per day. If you've lately been finding yourself living in the loo, you might be pooping more often.

Here are six possible reasons you're pooping a lot. And you don't have to worry—they can be normal.

1. YOU'RE EATING MORE VEGETABLES

If you've recently adjusted your eating habits to be more plant-forward—swapping chickpea pasta for traditional pasta, or upping your intake of cruciferous veggies, for example—you may simply be eating more fiber than your were before. The 2020–2025 Dietary Guidelines for Americans say most of us fall short of meeting the recommended intake of dietary fiber. Everyone is familiar with fiber, the roughage nutrient that helps keep you regular by preventing and relieving constipation. Plant-based diets are rich in fibrous foods, including fruits, vegetables, whole grains, legumes, nuts and seeds. People who eat a vegetarian diet (including vegans) are likely to consume more of these high-fiber foods and tend to poop more on average than non-vegetarian and non-vegan eaters. Those frequent poops owe it all to fiber pushing stool through the digestive tract.

2. YOU MIGHT BE LACTOSE INTOLERANT

Does a glass of milk trigger bloat and stomach bubbles? If so, you may be lactose intolerant, like 68 percent of the world. Lactose is a naturally occurring sugar in milk and milk products that's digested by lactase enzymes after consumption. People with lactose intolerance have low levels of lactase enzymes, making it difficult for them to break down lactose effectively. Undigested lactose in the intestines can cause symptoms from gas to stomach cramps. Loose, watery stools are also a symptom of lactose intolerance; having three or more loose stools daily indicates diarrhea.

3. YOU MIGHT BE DRINKING MORE COFFEE

Many people depend on their morning java fix to start the day, whether for an energy boost, flavor or comfort. According to the National Coffee Association, Americans

Chemicals that spike during menstruation may trigger digestive issues.

drink an average of three cups of coffee daily. Running to the restroom after coffee can be expected. In fact, a large number of people agree that coffee, regardless of caffeination, triggers a desire to go. So what is it about coffee that makes it pro-poop? Coffee increases contractions in the colon 50 percent more than water, and it also can cause flatulence, abdominal cramps and urination. Researchers have also seen the less-powerful effects of decaffeinated coffee on colon muscle movement, leading them to believe coffee's active ingredients, including gastrin and motilin, may directly impact gut muscles.

4. YOU MAY HAVE A DIGESTIVE ILLNESS

Digestive diseases can be tricky to diagnose because many share the same symptoms. Your excessive poops could be caused by an underlying disease such as irritable bowel syndrome (IBS), Crohn's disease or celiac disease, since diarrhea is a symptom of all three.

Crohn's disease is a chronic disease that triggers an irritated and inflamed digestive tract and that can cause bowel obstructions, malabsorption and ulcers. Celiac disease is an autoimmune disease of the digestive tract that's triggered by ingesting gluten, a protein found in many foods. There are 200 known symptoms, so changes in your bowel habits aren't enough for a diagnosis. If you are concerned you may have a digestive disease, or if digestive diseases run in your family, it may help to speak with a medical provider.

5. YOU'RE MENSTRUATING

Profuse pooping during your period is a common enough occurrence—as if things couldn't get any messier or uncomfortable. It's no surprise that your body experiences hormone fluctuations before, during and after menstruation—and yes, they are to blame for these period poop struggles. The offender? Prostaglandins. Research shows that during menstruation, there's a spike in prostaglandins, natural chemicals that contract the smooth muscle tissue in the uterus. And because your uterus is located close to your intestines, it's thought that the prostaglandins may also trigger diarrhea or loose stools in the first several days of your period. Plus, women with IBS often report more symptoms when they're on their period. So, period poop happens—but you're definitely not alone!

6. YOU MAY HAVE FOOD POISONING

It's not uncommon to experience food poisoning after consuming foods carrying harmful bacteria such as E. coli or salmonella. Roughly one in six Americans get sick with food poisoning every year. Just 30 minutes after eating contaminated food, your body may react with stomach cramps, vomiting and diarrhea (even, unfortunately, the explosive kind). You can take precautions to help prevent food poisoning by cooking foods to recommended temperatures, separating raw from cooked foods, and ordering fully cooked meat and seafood when eating out.

IS YOUR DIET FUELING FLATULENCE?

Feeling gassy is a normal part of digestion, and even the most nutrient-rich foods contribute to breaking wind. These five foods are common digestive offenders. Plus: four foods that can help make passing gas less unpleasant.

BY GABY McPHERSON, M.S., RDN, LDN, AND NOVELLA LUI, M.H.Sc., RD
REVIEWED BY MARIA LAURA HADDAD-GARCIA

Fourteen times a day—that's how often most people pass gas. Everyone experiences flatulence, and though it's mostly harmless, the sounds and lingering smells can be embarrassing. Gas may result from swallowing too much air when drinking carbonated drinks, chewing gum or even drinking too fast, according to the National Institute of Diabetes and Digestive and Kidney Diseases. That's proof that gas and bloating can be totally normal. But more often than not, certain foods and drinks can stimulate those familiar tummy gurgles.

Plenty of foods and beverages provide macronutrients, vitamins, minerals and antioxidants essential for good health. Though they play significant roles in our bodies, some nutrients may be more challenging to digest, causing stomach upset and gas. If gas has you in pain or sneaking off to the nearest corner, it may help to learn about the culprits causing your troubles. By tweaking your cooking habits or swapping to less gas-prone foods, you may be on your way to less flatulence. Here are five foods that may be making you gassy.

Cruciferous Vegetables

Cruciferous vegetables are a class of plants belonging to the *Brassica* genus. Brussels sprouts, broccoli, cauliflower, cabbage and kale are some members of this family with a gassy reputation. Many cruciferous veggies are high in FODMAPs, which stands for fermentable oligosaccharides, disaccharides, monosaccharides and polyols. FODMAPs are a group of small nondigestible carbohydrates that trigger abdominal symptoms in many people, especially those with irritable bowel syndrome (IBS). Like beans, some cruciferous vegetables contain raffinose and fructans, two types of oligosaccharides or FODMAPs. Doctors and dietitians broadly encourage eating more cruciferous veggies for their health benefits, so before shying away from the group, you

might try preparing them differently first. Cooking cruciferous veggies before eating (as opposed to raw) could make them more absorbable, leading to fewer farts. Not feeling it? Consider switching to other nutrient-dense vegetables that are lower in FODMAPs and less likely to stimulate gas. Bok choy, eggplant, lettuce, cucumbers, zucchini and bell peppers are a few good options.

Legumes

Beans and lentils are heralded for their fiber, a key nutrient in healthy digestion and constipation relief. But for some people, legumes such as black beans, lentils and chickpeas may deliver more than fiber—pent-up gas, as well. Legumes are rich in oligosaccharides, a carbohydrate that the small intestine can't properly digest.

More specifically, legumes are abundant in raffinose, a type of oligosaccharide. Raffinose must be broken down through fermentation by the bacteria in the colon. According to a 2022 article published in *Frontiers in Plant Science*, this fermentation produces hydrogen, carbon dioxide and methane—major components of gas and flatulence. Many people keep their distance from the magical fruit, but the reality is, eating more may help reduce the toots. You can also make beans less gas-provoking by soaking dry ones overnight or rinsing canned beans well before using.

Dairy

It's not uncommon for dairy foods like cow's milk and ice cream to send your stomach rumbling with bubbles. Milk and ice cream are high in natural milk sugar, commonly known as lactose. For your body to digest lactose, it needs a special enzyme called lactase to break it down. Lactase levels are low in people with lactose intolerance or sensitivity, leading to diarrhea, stomach cramps and gas symptoms after eating dairy. You aren't alone if you get gassy after eating or drinking dairy products. About 65 percent of the world is lactose intolerant, plus lactase enzymes decrease as we age. Switching to lactose-free dairy products or dairy-free products fortified with nutrients such as calcium and vitamins D and B12 may help do away with gas if you're sensitive to lactose.

Sugar-Free Chewing Gum

Many of us opt for a stick of gum to freshen our breath, reduce our stress or help keep us from smoking. Whether minty or fruity, many brands sweeten their chewing gum products with a group of sugar alcohols called polyols. Two types of polyols—xylitol and sorbitol—may lead to intestinal discomfort due to increased gas production during fermentation by gut bacteria. A small 2022 study published in the *Journal of Nursing Research* found that xylitol chewing gum caused gas to occur significantly more quickly in patients after surgery than in non-gum-chewing patients after surgery. If chewing

gum is linked to your gas issues, stopping altogether may not be worth it to you. A more realistic option may be to switch to gum sweetened with erythritol, as it may be better absorbed (90 percent) and may lead to less gas. Remember that chewing gum draws more air into the digestive tract, which can also make farts more frequent.

Carbonated Beverages

Fizzy drinks taste good, may contain caffeine and can help wash down a good meal; however, they may contribute to our gassy woes. Carbonated sodas, sparkling water or bubbly energy drinks cause you to swallow more air, especially if you use a straw. Everyone has different food and beverage triggers when it comes to breaking wind, and you may find that fizzy beverages don't cause gas for you. However, if you suspect carbonated beverages give you gas, it can help cut back on your intake and trade the drinks for plain water.

WHILE GAS HAPPENS TO EVERYONE, IT CAN BE painful, embarrassing and downright annoying. But the truth is, gas is a normal part of life. Whether you're looking to make your farts less stinky or improve your digestion, it turns out there are fart-reducing foods you could incorporate into your diet.

Ginger

Ginger offers fiery flavor and a comforting kick to foods and beverages. The underground stem of the ginger plant (rhizome) is an edible portion used widely as a remedy in traditional medicine in many cultures. A 2018 review published in *Food Science & Nutrition* noted that gingerol, one of the many spicy compounds in ginger root, may help increase movement in the digestive tract, something that may help relieve or prevent constipation. The same review also noted that ginger contains enzymes that may help break down gas within the digestive tract. While ginger may not cure flatulence or any other health conditions, there is certainly no harm in including it in your diet.

Fennel Seeds

Some cultures use fiber-rich fennel seeds medicinally, most commonly to aid digestion and freshen breath, according to 2022 research in *PLoS One.* Research published the same year in the *International Journal of Advances in Nursing Management* noted that the oils from these tiny seeds might help relieve gas, bloating and constipation thanks to their antibacterial properties.

Wheat Bran

If ginger and fennel seeds seem too strong for you, consider trying something more neutral: wheat bran, which is the outermost layer of the wheat kernel. Because of its high concentration of insoluble fiber, it adds significant bulk to stool and promotes the movement of food along the digestive tract, according to research published in *Critical Reviews in Food Science and Nutrition* in 2021. This can ultimately help relieve and prevent constipation, and wheat bran may also help improve the health of your gut bacteria, according to 2022 research in *Food Chemistry: X*. While many strains of gut bacteria produce gas after you consume fiber, wheat bran is one the few insoluble fibers that may not cause much flatulence, according to research published in the journal *Food & Function* in 2021.

Gingerol, one of the compounds in ginger root, may help increase movement in the digestive tract, something that may help relieve constipation.

Probiotic-Rich Foods

A 2020 review published in *Nutrients* found that foods containing probiotics may help improve digestion by reducing symptoms of lactose intolerance. These beneficial bacteria are also associated with easing bloating and gas symptoms related to IBS and promoting a healthy gut and immune system, according to 2022 research in the journal *Cureus*. You may notice you have more gas at first when you start eating more probiotics, but that symptom should diminish once your gut microbiome adapts to the new beneficial bacteria. If you think you may need a supplement, speak with a registered dietitian to find out which type of probiotics would be best for you. ●

CHAPTER 3

GUT-FRIENDLY RECIPES

These tasty dishes include probiotics and prebiotics to help support your microbiome and promote healthy digestion.

MORNING FAVORITES

Featuring prebiotic- and probiotic-rich foods, such as bananas, oats and yogurt, these morning meals can help support your gut, healthy digestion and more.

Avocado Toast with Egg, Cheddar & Kimchi

ACTIVE: 20 min **TOTAL:** 20 min

In this satisfying avocado-egg toast recipe, try full-flavored, high-fiber bread, like a hearty slice of German-style rye or seeded multigrain from your favorite bakery. To turn this into a portable breakfast, swap the toast for a whole-wheat English muffin or wrap.

- ½ small avocado, mashed
- 1 slice whole-grain bread, toasted
- Pinch of ground pepper
- 2 tablespoons shredded Cheddar cheese
- ½ teaspoon extra-virgin olive oil
- 1 large egg
- 2 tablespoons coarsely chopped kimchi (see Tip)

1. Spread avocado on toast; season with pepper and sprinkle with cheese. Heat in a toaster oven (or broil) until the cheese is melted.

2. Meanwhile, heat oil in a small nonstick skillet over medium heat. Crack egg into the pan. Reduce heat to medium-low and cook 5 to 7 minutes for a soft-set yolk. Top the toast with the egg and kimchi.

Tip: Look for jars of kimchi near other refrigerated Asian ingredients or near sauerkraut or refrigerated pickles in well-stocked supermarkets or natural-foods stores.

SERVINGS 1

CALORIES 386 **FAT** 28G **SATURATED FAT** 7G **CHOLESTEROL** 200MG **CARBS** 21G **TOTAL SUGARS** 3G **ADDED SUGARS** 1G **PROTEIN** 16G **FIBER** 9G **SODIUM** 359MG **POTASSIUM** 629MG **FOLATE** 32% DAILY VALUE

Mango Raspberry Smoothie

ACTIVE: 5 min **TOTAL:** 5 min

A squeeze of lemon juice adds bright flavor to this frozen fruit smoothie. Mango provides plenty of sweetness without having to add juice, but if it's too tart for you, a touch of agave will do the trick.

½ cup water
¼ medium avocado
1 tablespoon lemon juice
¾ cup frozen mango
¼ cup frozen raspberries
1 tablespoon agave (optional)

Add water, avocado, lemon juice, mango, raspberries and agave (if using) to a blender. Blend until smooth.

SERVINGS 1 **SERVING SIZE** 1½ CUPS **CALORIES** 188 **TOTAL CARBOHYDRATE** 32G **DIETARY FIBER** 6G **TOTAL SUGARS** 23G **PROTEIN** 2G **TOTAL FAT** 7G **SATURATED FAT** 1G **VITAMIN A** 1102IU **VITAMIN C** 52MG **FOLATE** 44MCG **SODIUM** 8MG **CALCIUM** 35MG **IRON** 1MG **MAGNESIUM** 17MG **POTASSIUM** 261MG

Mini Crustless Caramelized Onion & Cheese Quiches

ACTIVE: 1 hr **TOTAL:** 1 hr 45 min

These mini quiches are packed with savory caramelized onions and flavorful cheese. Onions are a rich source of prebiotics and fiber.

2	**tablespoons avocado oil or canola oil**
2	**large sweet onions, halved and sliced ¼-inch thick**
1	**teaspoon kosher salt plus a pinch, divided**
1	**tablespoon water, as needed**
5	**large eggs**
1⅓	**cups half-and-half**
⅛	**teaspoon ground white pepper**
1	**cup finely shredded Cheddar or Gruyère cheese, or crumbled goat or blue cheese**
¼	**cup chopped walnuts or pecans, toasted (optional; see Tip)**
2	**teaspoons fresh thyme leaves or finely chopped fresh parsley**

1. Heat oil in a large pot over medium heat. Add onions and 1 teaspoon salt; stir to coat. Reduce heat to low and cook, covered, for 5 minutes. Remove the lid and stir. Cook, uncovered and stirring every few minutes, until the onions are melted and a deep amber brown, 35 to 45 minutes. If fond (brown coating) builds up on the pan, add water, 1 tablespoon at a time, to deglaze the pan, then use a wooden spoon or spatula to scrape all that flavor back into your onions. Transfer the caramelized onions to a large bowl and let cool to room temperature, about 20 minutes.

2. Preheat oven to 375°F. Coat two 24-cup nonstick mini muffin tins with cooking spray.

3. Whisk eggs, half-and-half, pepper and the remaining pinch of salt in a large bowl. Combine the onions, cheese, nuts (if using) and thyme (or parsley) in a medium bowl; mix well. Add the onion mixture to the egg mixture; whisk to combine. Working quickly, spoon the mixture into the prepared muffin cups, filling each about ¾ full (about 1½ tablespoons). Every so often, give the mixture a stir to ensure the ingredients are staying evenly suspended in the custard.

4. Bake, rotating the pans front to back and side to side halfway, until a knife inserted into the center comes out completely clean, 15 to 20 minutes. Immediately invert the muffin tins to transfer the mini quiches onto a baking sheet. Let cool on the sheet pan to room temperature, about 15 minutes.

To make ahead:
Refrigerate caramelized onions (Step 1) for up to 3 days or freeze for up to 3 months. Refrigerate quiches for up to 3 days. Or freeze uncovered in a single layer on a parchment-lined sheet pan until solid, then transfer to a freezer bag for up to 2 months.

Tip: For the best flavor, toast nuts before using in a recipe. To toast chopped nuts, place in a small dry skillet and cook over medium-low heat, stirring constantly, until fragrant, 2 to 4 minutes.

SERVINGS 36
SERVING SIZE 1 MINI QUICHE
CALORIES 41 **CARBOHYDRATES** 1G
PROTEIN 2G **FAT** 3G **SATURATED FAT** 2G
CHOLESTEROL 32MG **VITAMIN A** 110IU
VITAMIN C 1MG **VITAMIN D** 7IU **FOLATE** 6MCG **SODIUM** 88MG **CALCIUM** 38MG
MAGNESIUM 3MG **POTASSIUM** 24MG

Tiramisu-Inspired Overnight Oats

ACTIVE: 10 min **TOTAL:** 4 hrs 10 min

Tiramisu, a classic Italian dessert, serves as flavor inspiration for these overnight oats. Instant espresso powder adds a touch of bitterness to the dish, which gets balanced by the sweetness of the maple syrup. We top each serving with yogurt for some tanginess, but you could also try swapping in ricotta. A dusting of cocoa powder on top serves as a nod to thedessert's iconic look. These oats are meal-prep-friendly, but if you find your oats becoming too dry as they sit in the fridge, add more almond milk until they're loosened to your desired consistency.

1½	**cups unsweetened almond milk**
1	**cup plain whole-milk strained yogurt, such as Greek-style, divided**
2½	**tablespoons pure maple syrup, divided**
2	**tablespoons chia seeds**
2	**teaspoons instant espresso powder**
1	**teaspoon vanilla extract**
½	**teaspoon salt**
1½	**cups old-fashioned rolled oats**
1¼	**teaspoons cocoa powder, divided**

1. Whisk almond milk, ¼ cup yogurt, 1½ tablespoons maple syrup, chia seeds, espresso powder, vanilla and salt together in a large bowl. Add oats; stir until completely coated and submerged. Cover and refrigerate for at least 4 hours and up to 4 days.

2. Combine the remaining ¾ cup yogurt and 1 tablespoon maple syrup in a small bowl.

3. To serve, spoon ⅔ cup oat mixture into a small jar or bowl. Top with 3 tablespoons maple yogurt. Use a small fine-mesh sieve to dust with ¼ teaspoon cocoa.

SERVINGS 4
SERVING SIZE ⅔ CUP OATS, 3 TBSP. MAPLE YOGURT & ¼ TSP. COCOA
CALORIES 250
TOTAL CARBOHYDRATE 35G
DIETARY FIBER 5G **TOTAL SUGARS** 11G
ADDED SUGARS 8G **PROTEIN** 11G
TOTAL FAT 8G **SATURATED FAT** 2G
CHOLESTEROL 8MG **VITAMIN A** 200IU
VITAMIN D 38IU **VITAMIN E** 4MG
FOLATE 6MCG **SODIUM** 379MG **CALCIUM** 294MG **IRON** 2MG **MAGNESIUM** 60MG
POTASSIUM 273MG **ZINC** 1MG **VITAMIN B12** 2MCG **OMEGA 3** 1G

Oatmeal Waffles

ACTIVE: 40 min **TOTAL:** 40 min

These waffles have a hint of cinnamon and a crispy outer layer. Brown sugar in the batter helps to mimic the flavors of oatmeal.

- **1 cup old-fashioned rolled oats**
- **1½ cups all-purpose flour**
- **1 teaspoon baking powder**
- **1 teaspoon ground cinnamon**
- **½ teaspoon salt**
- **2 cups oat milk or other nondairy milk**
- **2 large eggs, lightly beaten**
- **6 tablespoons unsalted butter, melted**
- **3 tablespoons light brown sugar**
- **1 teaspoon vanilla extract**
- **2 cups mixed fresh blueberries and blackberries**
- **Maple syrup or vanilla yogurt (optional)**

1. Preheat waffle iron to medium-high. Process oats in a blender to a fine powder, about 20 seconds. Transfer to a medium bowl. Add flour, baking powder, cinnamon and salt; whisk until well combined. Add oat milk (or other milk), eggs, butter, brown sugar and vanilla; whisk until just combined (some lumps may remain).

2. Coat the waffle iron with cooking spray. Spoon on ½ cup batter, spreading it to reach the edges; cook until cooked through and golden brown, 4 to 5 minutes. Repeat with the remaining batter.

3. Top the waffles evenly with berries; serve with maple syrup or yogurt, if desired.

SERVINGS 8
SERVING SIZE 1 WAFFLE & ¼ CUP BERRIES
CALORIES 283 **CARBOHYDRATES** 39G **DIETARY FIBER** 4G **SUGARS** 9G **ADDED SUGARS** 5G **PROTEIN** 7G **FAT** 11G **SATURATED FAT** 6G **CHOLESTEROL** 69MG **VITAMIN A** 383IU **VITAMIN C** 6MG **VITAMIN D** 10IU **VITAMIN E** 1MG **FOLATE** 80MCG **VITAMIN K** 8MCG **SODIUM** 258MG **CALCIUM** 70MG **IRON** 2MG **MAGNESIUM** 23MG **POTASSIUM** 159MG **ZINC** 1MG

Gluten-Free Almond-Flour Banana Pancakes

ACTIVE: 20 min **TOTAL:** 20 min

These gluten-free almond-flour banana pancakes have a lovely nutty flavor that complements the sweet bananas. Vanilla and nutmeg tie everything together.

3 medium ripe bananas, divided
1½ cups almond flour
2 large eggs
2 tablespoons honey
2 teaspoons vanilla extract
¼ teaspoon salt
⅛ teaspoon ground nutmeg
1 tablespoon unsalted butter, divided
Maple syrup (optional)

1. Place 2 bananas in a large bowl; mash with a fork until smooth. Add almond flour and stir until combined. Add eggs, honey, vanilla, salt and nutmeg; stir until combined.

2. Grease a large nonstick skillet with 1½ teaspoons butter; heat over medium-low heat until the butter melts. Spoon batter (a heaping ¼ cup per pancake) into the pan to make 4 pancakes. Cook until the bottoms are golden brown and the edges begin to set, about 3 minutes. Flip and cook until golden brown on the bottoms, about 2 minutes. Repeat with the remaining 1½ teaspoons butter and the remaining batter.

3. Thinly slice the remaining 1 banana. Top the pancakes with banana slices and drizzle with maple syrup, if desired.

SERVINGS 4
SERVING SIZE ABOUT 2 PANCAKES
CALORIES 448 **CARBOHYDRATES** 38G **DIETARY FIBER** 5G **SUGARS** 23G **ADDED SUGARS** 9G **PROTEIN** 13G **FAT** 30G **SATURATED FAT** 4G **CHOLESTEROL** 101MG **VITAMIN A** 280IU **VITAMIN C** 8MG **VITAMIN D** 21IU **VITAMIN E** 13MG **FOLATE** 30MCG **VITAMIN K** 1MCG **SODIUM** 183MG **CALCIUM** 140MG **IRON** 2MG **MAGNESIUM** 148MG **POTASSIUM** 661MG **ZINC** 1MG

COZY SOUPS

Fiber-rich and highlighting legumes and whole grains, these comforting bowls are packed with ingredients that can help support your gut health.

French Onion Soup with Portobello Cheese "Toast"

ACTIVE: 45 min **TOTAL:** 45 min

Roasted portobellos stuffed with cheese, herbs and breadcrumbs stand in for Gruyère toast.

4 tablespoons extra-virgin olive oil, divided
2 tablespoons butter
2 large sweet onions, sliced
1 medium red onion, sliced
4 medium portobello mushrooms, stems and gills removed
½ teaspoon ground pepper, divided
2 tablespoons chopped garlic
2 teaspoons chopped fresh thyme or ½ teaspoon dried
¼ cup dry sherry
½ teaspoon salt
4 cups unsalted beef broth
½ cup shredded Gruyère cheese
¼ cup plain dry breadcrumbs
1 tablespoon minced fresh chives

1. Position racks in middle and upper thirds of oven; preheat to 450°F. Coat a rimmed baking sheet with cooking spray.
2. Heat 2 tablespoons oil and butter in a large pot over medium-high heat. Add onions and stir to coat. Cover, reduce heat to medium and cook, stirring often and scraping up any browned bits, until golden brown, 25 to 30 minutes.
3. Meanwhile, place mushrooms caps, gill-side up, on the prepared pan. Brush with 1 tablespoon oil and sprinkle with ¼ teaspoon pepper. Roast on the middle rack until tender, 10 to 15 minutes. Remove from oven and preheat broiler to high.
4. Add garlic and thyme to the onions and cook, uncovered, for 2 minutes more. Stir in sherry, salt and the remaining ¼ teaspoon pepper; increase heat to medium-high and bring to a simmer. Cook, stirring often, until most of the liquid has evaporated, about 1 minute. Stir in broth and return to a simmer. Reduce heat and simmer for 10 minutes.
5. Meanwhile, combine Gruyère, breadcrumbs, chives and remaining 1 tablespoon oil in a small bowl. Divide the mixture among the mushroom caps. Broil the mushrooms until the filling is lightly browned, about 1 minute.
6. Divide the soup among 4 bowls and serve topped with a mushroom "toast."

SERVINGS 4
SERVING SIZE 1½ CUPS SOUP & 1 "TOAST"
CALORIES 370 **CARBOHYDRATES** 25G **DIETARY FIBER** 4G **SUGARS** 12G **PROTEIN** 12G **FAT** 25G **SATURATED FAT** 8G **CHOLESTEROL** 30MG **VITAMIN A** 361IU **VITAMIN C** 12MG **FOLATE** 81MCG **SODIUM** 581MG **CALCIUM** 205MG **IRON** 1MG **MAGNESIUM** 39MG **POTASSIUM** 767MG

Cabbage & White Bean Soup

ACTIVE: 15 min **TOTAL:** 25 min

This soup is easy and flavorful. Avoid browning the leeks and garlic, as it could make the soup bitter. To make this recipe vegan, use vegan-friendly pesto and omit the Parmesan rind.

- **2 tablespoons extra-virgin olive oil**
- **4 cups chopped green cabbage**
- **1½ cups sliced leek**
- **1½ tablespoons finely chopped garlic**
- **4 cups lower-sodium vegetable broth**
- **½ teaspoon salt**
- **1 (15 ounce) can no-salt-added white beans, rinsed**
- **1 Parmesan rind (optional)**
- **1 tablespoon white-wine vinegar**
- **¼ cup pesto**

1. Heat oil in a large Dutch oven or large pot over medium-high heat. Add cabbage and leek; cook, stirring often, until softened but not browned, about 4 minutes. Add garlic; cook, stirring constantly, until fragrant, about 1 minute. Add broth, salt, beans and Parmesan rind, if using; increase heat to high and bring to a boil.

2. Reduce heat to low to maintain a low simmer; cover and cook, undisturbed, until the cabbage is tender, about 10 minutes. Remove from heat and stir in vinegar. Remove and discard Parmesan rind, if using. Divide the soup among 4 bowls, and top with pesto.

SERVINGS 4
SERVING SIZE 1½ CUPS
CALORIES 294 **CARBOHYDRATES** 28G **DIETARY FIBER** 8G **SUGARS** 5G **FAT** 16G **SATURATED FAT** 3G **CHOLESTEROL** 5MG **VITAMIN A** 1951 U **VITAMIN C** 38MG **VITAMIN E** 1MG **FOLATE** 60MCG **VITAMIN K** 83MCG **SODIUM** 595MG **CALCIUM** 218MG **IRON** 3MG **MAGNESIUM** 77MG **POTASSIUM** 461MG **ZINC** 2MG

Bean & Barley Soup

ACTIVE: 30 min **TOTAL:** 45 min

This hearty soup tastes like it has simmered for hours, but actually it's quite quick to throw together. Plus, it freezes beautifully. If you have cooked barley on hand, omit the quick-cooking version and stir in 1½ cups cooked barley along with the broth in Step 2.

4 teaspoons extra-virgin olive oil
1 large onion, chopped
1 medium fennel bulb, cored and chopped
5 cloves garlic, minced
1 teaspoon dried basil
1 (15 ounce) can cannellini or other white beans, rinsed
1 (14 ounce) can fire-roasted diced tomatoes
6 cups low-sodium vegetable broth
¾ cup quick-cooking barley
1 (5 ounce) package baby spinach (6 cups)
¼ cup grated Parmesan cheese
¼ teaspoon ground pepper

1. Heat oil in a Dutch oven over medium-high heat. Add onion, fennel, garlic and basil; cook, stirring frequently, until tender and just beginning to brown, 6 to 8 minutes.

2. Mash ½ cup of the beans. Stir the mashed and whole beans, tomatoes, broth and barley into the pot. Bring to a boil over high heat. Reduce heat to medium and simmer, stirring occasionally, until the barley is tender, about 15 minutes. Stir in spinach and cook until wilted, about 1 minute. Remove from the heat and stir in cheese and pepper.

Tip: To make ahead, refrigerate for up to three days or freeze for up to six months.

SERVINGS 4
SERVING SIZE 2½ CUPS
CALORIES 333 **CARBOHYDRATES** 55G **DIETARY FIBER** 12G **SUGARS** 11G **PROTEIN** 13G **FAT** 8G **SATURATED FAT** 2G **CHOLESTEROL** 4MG **VITAMIN A** 1920IU **VITAMIN C** 37MG **FOLATE** 24MCG **SODIUM** 619MG **CALCIUM** 183MG **IRON** 4MG **MAGNESIUM** 92MG **POTASSIUM** 832MG

Loaded Black Bean Nacho Soup

ACTIVE: 10 min **TOTAL:** 10 min

Jazz up a can of black bean soup with your favorite nacho toppings, such as cheese, avocado and fresh tomatoes. A bit of smoked paprika adds a bold flavor kick, but you can swap in any warm spices you prefer, such as cumin or chili powder. Look for a soup that contains no more than 450 mg of sodium per serving.

- 1 (18 ounce) carton low-sodium black bean soup
- ¼ teaspoon smoked paprika
- ½ teaspoon lime juice
- ½ cup halved grape tomatoes
- ½ cup shredded cabbage or slaw mix
- 2 tablespoons crumbled cotija cheese or other Mexican-style shredded cheese
- ½ medium avocado, diced
- 2 ounces baked tortilla chips

1. Pour soup into a small saucepan and stir in paprika. Heat according to package directions. Stir in lime juice.
2. Divide the soup between 2 bowls and top with tomatoes, cabbage (or slaw), cheese and avocado. Serve with tortilla chips.

SERVINGS 2
SERVING SIZE ABOUT 1 CUP
CALORIES 350 **CARBOHYDRATES** 44G **DIETARY FIBER** 9G **SUGARS** 4G **PROTEIN** 10G **FAT** 17G **SATURATED FAT** 3G **CHOLESTEROL** 8MG **VITAMIN A** 860IU **VITAMIN C** 19MG **FOLATE** 52MCG **SODIUM** 291MG **CALCIUM** 193MG **IRON** 3MG **MAGNESIUM** 62MG **POTASSIUM** 352MG

Easy Tortellini Soup

ACTIVE: 15 min **TOTAL:** 20 min

This vibrant soup is on the table quickly, making it the perfect weeknight meal. The broth is delicate and creamy, thanks to the Parmesan rind.

2 tablespoons extra-virgin olive oil
1 cup finely chopped yellow onion
2 small leeks, trimmed, cleaned and finely chopped
2 tablespoons minced garlic
½ teaspoon dried basil
¼ teaspoon kosher salt
¼ teaspoon ground pepper
6 cups lower-sodium vegetable broth
1 Parmesan cheese rind (1 ounce)
1 (20 ounce) package refrigerated cheese tortellini
2 cups diagonally sliced asparagus
1½ cups frozen green peas
¼ cup grated Parmesan cheese
1 lemon, cut into 6 wedges

1. Heat oil in a Dutch oven over medium heat. Add onion and leeks; cook, stirring occasionally, until translucent and tender, 3 to 5 minutes. Add garlic; cook, stirring often, until fragrant, about 1 minute. Stir in basil, salt and pepper.

2. Add broth and Parmesan rind. Cover and bring to a boil over medium-high heat; reduce heat to medium-low to simmer. Add tortellini; cover and cook until pasta is al dente, about 4 minutes. Add asparagus and peas; cook, uncovered and stirring occasionally, until the vegetables are bright green and tender, 2 to 3 minutes. Remove and discard the Parmesan rind.

3. Divide the soup among 6 bowls. Top each with 2 teaspoons Parmesan and serve with a lemon wedge.

SERVINGS 6
SERVING SIZE 1½ CUPS
CALORIES 432 **CARBOHYDRATES** 58G **DIETARY FIBER** 8G **SUGARS** 9G **PROTEIN** 19G **FAT** 14G **SATURATED FAT** 4G **CHOLESTEROL** 39MG **VITAMIN A** 2683IU **VITAMIN C** 18MG **VITAMIN D** 11IU **VITAMIN E** 1MG **FOLATE** 61MCG **VITAMIN K** 40MCG **SODIUM** 735MG **CALCIUM** 251MG **IRON** 5MG **MAGNESIUM** 25MG **POTASSIUM** 247MG **ZINC** 1MG

Pasta e Ceci (Pasta & Chickpea Soup)

ACTIVE: 30 min **TOTAL:** 30 min

This thick soup is full of ceci *(Italian for chickpeas), tomatoes, fresh rosemary and pasta. Convenient pantry items make it the perfect solution for harried weeknights. To make this soup vegetarian, simply swap reduced-sodium vegetable broth for the beef broth.*

- **2 teaspoons extra-virgin olive oil**
- **2 cloves garlic, finely chopped**
- **1 (14 ounce) can plum tomatoes, drained**
- **1 large sprig fresh rosemary, or 1½ teaspoons crushed dried**
- **2 (15 ounce) cans reduced-sodium beef broth**
- **2 cups water**
- **2 (19 ounce) cans chickpeas, rinsed, divided**
- **6 ounces whole-wheat elbow macaroni, or cavatappi**
- **½ teaspoon freshly ground pepper**
- **⅓ cup grated Pecorino Romano or Parmesan cheese**

1. Heat oil in a large pot over low heat. Add garlic and cook, stirring, until golden, about 1 minute. Add tomatoes and rosemary; simmer for 5 minutes, crushing tomatoes with a fork or potato masher. Pour in broth and water; bring to a simmer over medium heat.

2. Meanwhile, mash 1 cup chickpeas in a small bowl with a fork or potato masher. Stir the mashed chickpeas, pasta and pepper into the tomato-broth mixture. Simmer, uncovered, until the pasta is tender, 8 to 10 minutes or according to package directions. Stir in the remaining whole chickpeas, and heat through. If using fresh rosemary, remove the sprig. Serve the soup with a sprinkling of grated cheese.

SERVINGS 6
SERVING SIZE 1½ CUPS
CALORIES 307 **CARBOHYDRATES** 54G **DIETARY FIBER** 10G **SUGARS** 3G **PROTEIN** 14G **FAT** 5G **SATURATED FAT** 2G **CHOLESTEROL** 9MG **VITAMIN A** 33IU **VITAMIN C** 5MG **FOLATE** 106MCG **SODIUM** 657MG **CALCIUM** 57MG **IRON** 3MG **MAGNESIUM** 80MG **POTASSIUM** 386MG

Potato, Leek & Asparagus Soup

ACTIVE: 25 min **TOTAL:** 40 min

Potato peels, asparagus stalks and leek tops get cooked down into this soup. They contain prebiotic fiber to help feed the good bugs in your gut. The asparagus tips are then pan-fried with peas for a bright green garnish.

- **3 tablespoons extra-virgin olive oil, divided**
- **1 large leek, trimmed, sliced and thoroughly rinsed**
- **½ teaspoon salt, divided**
- **½ teaspoon ground white pepper, divided**
- **1 bunch asparagus (about 1 pound), trimmed**
- **1½ pounds Yukon Gold potatoes, scrubbed and diced**
- **2 cups reduced-sodium vegetable broth**
- **2 cups whole milk**
- **½ cup peas**
- **1 clove garlic, minced**

1. Heat 2 tablespoons oil in a large pot over medium-low heat. Add leek and cook, stirring occasionally, until tender and starting to brown, 8 to 10 minutes. Sprinkle with ¼ teaspoon salt and pepper.

2. Meanwhile, cut off the tips of the asparagus spears and set aside. Chop the stalks. Add the asparagus stalks, potatoes, broth and milk to the pot and bring to a simmer. Cook at a low simmer, covered, until the potatoes are tender, 15 to 20 minutes.

3. Heat the remaining 1 tablespoon oil in a medium skillet over medium-high heat. Add the asparagus tips and peas and cook, stirring occasionally, until just starting to brown, about 4 minutes. Add garlic and cook, stirring, until fragrant, about 1 minute. Remove from heat and sprinkle with the remaining ¼ teaspoon each salt and pepper. Cover.

4. Puree the soup with an immersion blender or in batches in a regular blender until smooth. (Use caution when blending hot liquids.) Serve topped with the peas and asparagus.

SERVINGS 4
SERVING SIZE 2 CUPS
CALORIES 407 **CARBOHYDRATES** 62G **DIETARY FIBER** 9G **SUGARS** 15G **PROTEIN** 12G **FAT** 15G **SATURATED FAT** 4G **CHOLESTEROL** 12MG **VITAMIN A** 3915IU **VITAMIN C** 29MG **VITAMIN D** 62IU **VITAMIN E** 4MG **FOLATE** 147MCG **VITAMIN K** 106MCG **SODIUM** 506MG **CALCIUM** 371MG **IRON** 7MG **MAGNESIUM** 64MG **POTASSIUM** 623MG **ZINC** 1MG **VITAMIN B12** 1MCG

FERMENTED WONDERS

The helpful bacteria in fermented foods (probiotics) may improve digestion and support the immune system.

Gat Kimchi Bokkeum Bap (Mustard-Green Kimchi Fried Rice)

ACTIVE: 15 min **TOTAL:** 15 min

Cooling the cooked rice is key here—it dries out the rice and firms it up so it doesn't stick together when fried, yielding fluffier results.

4 tablespoons canola or avocado oil, divided
3 scallions, chopped
1 tablespoon minced fresh ginger
½ cup Gat Kimchi (see recipe, page 77) or other kimchi, chopped
2 cloves garlic, minced
1 tablespoon reduced-sodium tamari or soy sauce
3 cups cold cooked brown or white rice
2 teaspoons toasted sesame oil
1 teaspoon sesame seeds, toasted
3 large eggs
6 small or 1 large sheet(s) gim (nori), crumbled

1. Heat 3 tablespoons canola (or avocado) oil in a large flat-bottom wok or large skillet over high heat. Add scallions and ginger and cook until fragrant, about 30 seconds. Add kimchi and garlic; cook, stirring occasionally, until the moisture has evaporated, about 2 minutes. Add tamari (or soy sauce); cook for 1 minute more.
2. Add rice and stir to break up any clumps. Cook, stirring occasionally, until the rice is well coated and starts to toast, about 3 minutes. Add sesame oil and sesame seeds and cook, stirring, until hot, about 2 minutes.
3. Meanwhile, heat the remaining 1 tablespoon canola (or avocado) oil in a medium nonstick or cast-iron skillet over medium heat. Crack eggs into the pan and cook to desired doneness, 1½ to 2 minutes for a runny yolk and 3½ to 4 minutes for a firmer yolk.
4. Mix gim (nori) into the rice and serve topped with the eggs.

SERVINGS 3
SERVING SIZE 1¼ CUPS RICE & 1 EGG
CALORIES 543 **CARBOHYDRATES** 57G
DIETARY FIBER 5G **SUGARS** 2G **PROTEIN** 14G **FAT** 29G **SATURATED FAT** 4G
CHOLESTEROL 186MG **VITAMIN A** 1607IU
SODIUM 371MG **POTASSIUM** 443MG

Chicken Miso Curry

ACTIVE: 35 min **TOTAL:** 55 min

Cookbook author and cooking teacher Sonoko Sakai has a passion for miso, the fermented bean paste that's a staple in Japan. Here, it adds depth of flavor to curried chicken and vegetables.

- **3 tablespoons unsalted butter**
- **3 tablespoons all-purpose flour**
- **1 tablespoon Japanese curry powder (see Tip)**
- **2 tablespoons canola oil, divided**
- **1 medium yellow onion, coarsely chopped**
- **1 pound boneless, skinless chicken thighs, trimmed and cut into 1½-inch pieces**
- **2 cloves garlic, minced**
- **1 teaspoon grated fresh ginger**
- **2 medium potatoes, peeled and cut into ½-inch pieces**
- **1 medium carrot, diced**
- **1 medium green bell pepper, sliced**
- **1 spicy chile pepper, such as serrano or Thai chile, seeded and minced (optional)**
- **3 cups low-sodium chicken broth**
- **1 tablespoon red miso**
- **1 teaspoon reduced-sodium soy sauce**
- **1 teaspoon rice vinegar**
- **½ teaspoon salt**
- **¼ teaspoon ground pepper**

1. Melt butter in a small saucepan over medium heat. Add flour and stir constantly until the roux is a light blond color, about 2 minutes. Remove from heat and stir in curry powder. Transfer to a small heatproof container.

2. Heat 1 tablespoon oil in a large pot over medium-high heat. Add onion and cook, stirring occasionally, until starting to brown, about 3 minutes. Push the onion to one side and add the remaining 1 tablespoon oil. Add chicken and cook, stirring occasionally, until no longer pink on the outside, about 2 minutes. Add garlic and ginger and cook, stirring, for 1 minute. Add potatoes, carrot, bell pepper and chile, if using. Cook, stirring occasionally, for 2 minutes.

3. Add broth and scrape up any browned bits with a wooden spoon. When the broth begins to simmer, reduce heat to medium-low and stir in the curry roux, miso, soy sauce, vinegar, salt and pepper. Simmer, stirring occasionally, until the chicken is cooked through and the vegetables are tender, about 15 minutes.

To make ahead:
Refrigerate curry roux (Step 1) for up to 1 month or freeze for up to 4 months. Bring to room temperature before using.

Tip: Japanese curry powder tends to be on the mild side. Sonoko Sakai sells her own blend at sonokosakai.com.

SERVINGS 4
SERVING SIZE 1¾ CUPS
CALORIES 434 **CARBOHYDRATES** 31G **DIETARY FIBER** 4G **SUGARS** 5G **PROTEIN** 30G **FAT** 22G **SATURATED FAT** 8G **CHOLESTEROL** 129MG **SODIUM** 705MG **POTASSIUM** 878MG

Gat Kimchi (Mustard-Green Kimchi)

ACTIVE: 35 min **TOTAL:** 5 to 7 days

The variety of gat (mustard greens) that Kristyn Leach cultivates on Namu Farm in Winters, California, is from Jeolla-do, the Korean province that chef Mina Park's family is from. Park, who explores Korean food traditions with her husband, Kwang Uh, at Baroo and Shiku, both in Los Angeles, started growing Leach's gat in her garden, and it brought her a sense of connection to her ancestors as she cultivated and cooked with it.

1 pound mustard greens, stemmed, washed, dried and cut into 3-inch pieces
2½ teaspoons salt
1 cup distilled water
1 large Asian pear, peeled and coarsely chopped
¼ cup coarsely chopped peeled daikon
1½ tablespoons fresh ginger, coarsely chopped
3 cloves garlic, coarsely chopped
1 scallion, coarsely chopped
Zest and juice of 1 lemon

1. Toss mustard greens with salt in a large bowl. Let stand, tossing once or twice, for 30 minutes.
2. Meanwhile, combine water, pear, daikon, ginger, garlic, scallion and lemon juice in a blender; process until smooth. Strain the puree through a fine-mesh sieve set over a bowl, pressing on the solids to extract the liquid. Discard the solids. Stir lemon zest into the liquid.
3. Pack the mustard greens and any accumulated liquid into a sterilized quart jar. Pour the lemony liquid over the greens. Press down on the greens with a wooden spoon or spatula until they are submerged.
4. Screw on the lid. Place the jar in a cool, dark spot and ferment at room temperature for 5 to 7 days. (If it's hot, 2 to 3 days may be enough). When it's fermented to your liking, refrigerate for up to 3 weeks.

To make ahead: Refrigerate kimchi for up to 3 weeks.

Equipment:
Quart jar, sterilized

SERVINGS 10
SERVING SIZE ¼ CUP
CALORIES 14 **CARBOHYDRATES** 2G
DIETARY FIBER 2G **SUGARS** 1G
PROTEIN 1G **VITAMIN A** 1374IU
SODIUM 79MG **POTASSIUM** 178MG

Fruit & Granola Pops

ACTIVE: 10 min **TOTAL:** 3 hr 10 min

Adding granola to this fruit pop recipe upgrades it from frozen treat to healthy grab-and-go breakfast. Kefir brings probiotic power, and honey and fruit add a touch of sweetness.

1½ cups plain kefir
2 tablespoons honey
¼ teaspoon almond extract
1½ cups sliced fruit, such as kiwi, blueberries and strawberries
6 tablespoons granola, divided

1. Whisk kefir, honey and almond extract in a bowl. Divide fruit among six 3-ounce popsicle molds and pour in the kefir mixture. Top each with 1 tablespoon granola and insert popsicle sticks. Freeze until solid, about 3 hours.

To make ahead: Freeze for up to 1 week.

SERVINGS 6
SERVING SIZE 1 POP
CALORIES 120 **CARBOHYDRATES** 18G **DIETARY FIBER** 2G **SUGARS** 12G **ADDED SUGARS** 6G **PROTEIN** 4G **FAT** 4G **SATURATED FAT** 2G **CHOLESTEROL** 8MG **VITAMIN A** 148 U **VITAMIN C** 23MG **FOLATE** 14MCG **SODIUM** 41MG **CALCIUM** 89MG **IRON** 1MG **MAGNESIUM** 18MG **POTASSIUM** 122MG

3-Ingredient Overnight Berry Muesli

ACTIVE: 5 min **TOTAL:** 8 hr

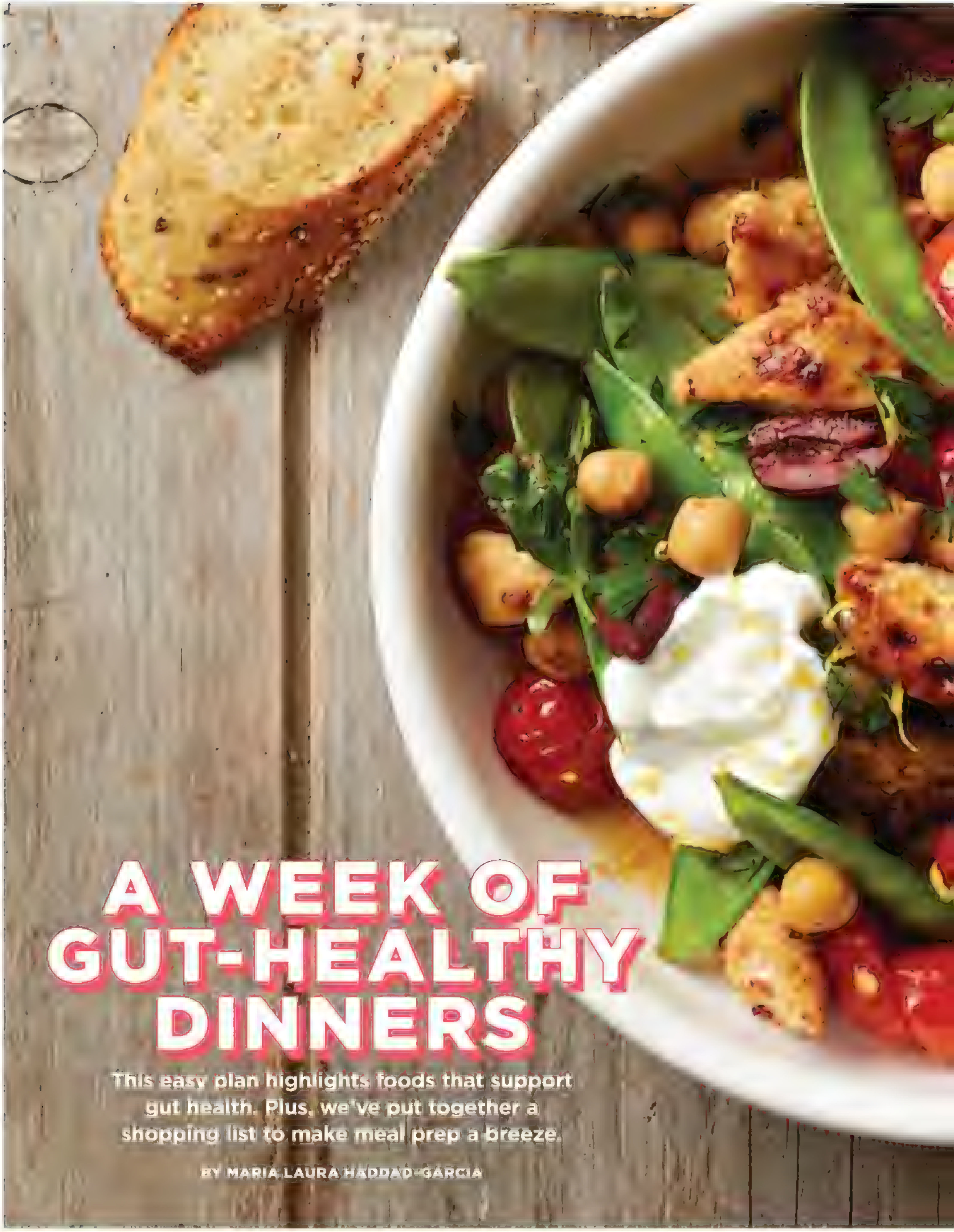
Using prepared muesli is an easy way to add different grains, nuts and dried fruit to your overnight oats without needing to buy them separately. Opt for frozen mixed berries instead of fresh, as frozen berries will release juices as they thaw in the fridge.

1 cup muesli
2 cups plain kefir
2 cups frozen mixed berries

Spoon ¼ cup muesli into each of 4 jars or containers. Top each with ½ cup kefir and ½ cup frozen berries; mix well to combine. Cover and refrigerate overnight, or for up to 4 days. Stir well before serving.

To make ahead:
Refrigerate for up to 4 days.

SERVINGS 4
SERVING SIZE 1 JAR
CALORIES 220 **CARBOHYDRATES** 35G
DIETARY FIBER 6G **SUGARS** 14G
PROTEIN 9G **FAT** 8G **SATURATED FAT** 3G **CHOLESTEROL** 15MG **VITAMIN A** 250IU **SODIUM** 75MG **POTASSIUM** 48MG



A WEEK OF GUT-HEALTHY DINNERS

This easy plan highlights foods that support gut health. Plus, we've put together a shopping list to make meal prep a breeze.

BY MARIA LAURA HADDAD-GARCIA

Cooking is one of my favorite activities to wind down, but it can easily turn out to be quite the opposite—especially if I haven't planned ahead. That's where weekly meal planning comes in handy. Making a plan ahead of time helps make it easy to eat healthy during a busy week, which in turn helps me feel my best. This six-day dinner plan includes recipes with three steps or less to keep the prep as easy as possible. Plus, they focus on fiber-rich ingredients to help support gut health.

Your Meal Plan

When looking for foods to support gut health, I rely on fermented foods, such as Greek-style yogurt and pickled veggies, and fiber-rich foods, such as whole grains, veggies and fruits. Fiber is one of the most important nutrients for your gut.

Thursday's Creamy Mushroom, Chicken & Asparagus Bake is a delicious gut-healthy winner. This recipe features prebiotic-rich foods including asparagus, mushrooms, brown rice and onion. The asparagus and onion, in particular, contain fructans, a type of fiber that breaks down more slowly in your gut, helping you feel more satisfied.

Using cooked chicken (I'll be picking up a rotisserie chicken to use in this recipe) and microwaveable brown rice makes prep easier so that this dinner can be on the table in 35 minutes or less.

SUNDAY

Spicy Chicken and Snow Pea Skillet

ACTIVE: 25 min **TOTAL:** 25 min

Harissa is a North African hot chile paste—use just a teaspoon if you prefer a more mild flavor. Serve this spicy skillet with whole-wheat baguette slices.

1 pound skinless, boneless chicken breast halves, cut into ¾-inch pieces
1 to 2 teaspoons harissa paste
2 cloves garlic, minced
1 tablespoon olive oil
2 cups cherry tomatoes, halved
12 ounces snow pea pods, trimmed
1 (15 ounce) can no-salt-added garbanzo beans (chickpeas), rinsed and drained
½ cup reduced-sodium chicken broth
¼ teaspoon salt
1 lemon
⅓ cup snipped fresh parsley
¼ cup pitted Kalamata olives, halved
¼ cup plain fat-free Greek-style yogurt
4 (1 ounce) slices whole wheat baguette bread, toasted (optional)

1. In a medium bowl, combine chicken, harissa paste and garlic; toss to coat. In a 12-inch skillet, heat oil over medium-high. Add chicken; cook and stir until no longer pink. Remove from skillet.
2. In skillet, combine the cherry tomatoes, snow peas, garbanzo beans, chicken broth and salt. Bring to a boil; reduce heat. Simmer, covered, 5 minutes or until tomatoes are softened and pea pods are tender. Return chicken to skillet.
3. Meanwhile, remove 1 teaspoon zest and squeeze 1 tablespoon juice from lemon. Stir lemon zest and juice, parsley and olives into chicken mixture. Top servings with yogurt.

SERVINGS 4
SERVING SIZE 2 CUPS
CALORIES 323 **CARBOHYDRATES** 23G **DIETARY FIBER** 7G **SUGARS** 7G **PROTEIN** 35G **FAT** 10G **SATURATED FAT** 1G **CHOLESTEROL** 83MG **VITAMIN A** 2137IU **VITAMIN C** 73MG **FOLATE** 69MCG **SODIUM** 502MG **CALCIUM** 85MG **IRON** 3MG **MAGNESIUM** 66MG **POTASSIUM** 827MG

MONDAY

Vegetarian Enchilada Casserole

ACTIVE: 25 min **TOTAL:** 1 hr

Think of this casserole as a veggie-packed lasagna with corn tortillas standing in for the noodles! If your peppers are mild and you like heat, opt for spicy pico de gallo.

2 tablespoons extra-virgin olive oil
1 cup chopped onion
¾ cup chopped poblano peppers
6 cloves garlic, minced
1 medium yellow squash, halved and sliced (¼-inch)
1 medium zucchini, halved and sliced (¼-inch)
1 cup fresh corn kernels (from 2 ears)
1 cup pico de gallo
½ teaspoon salt
1 (15 ounce) can no-salt-added pinto beans, rinsed
1 (15 ounce) can no-salt-added black beans, rinsed
8 (6 inch) corn tortillas
1½ cups shredded pepper Jack cheese
1 avocado, diced
½ cup scallions
½ cup reduced-fat sour cream

1. Preheat oven to 350°F. Heat oil in a large skillet over medium-high heat. Add onion, poblanos and garlic; cook, stirring occasionally, until softened, 4 to 5 minutes. Add squash, zucchini, corn, pico de gallo and salt; cook, stirring occasionally, until the liquid comes to a simmer, 5 to 6 minutes. Simmer, stirring occasionally, until the liquid reduces by half, about 2 minutes. Remove from heat; stir in pinto beans and black beans.
2. Coat a 9-by-13-inch baking dish with cooking spray. Spoon one-third of the vegetable mixture into the prepared dish. Top evenly with 4 tortillas. Repeat with half the remaining vegetable mixture and the remaining 4 tortillas. Top with the remaining vegetable mixture. Sprinkle evenly with cheese.
3. Bake until the cheese is bubbly, 25 to 30 minutes. Sprinkle evenly with avocado and scallions. Dollop with sour cream.

SERVINGS 8
SERVING SIZE 1½ CUPS
CALORIES 357 **CARBOHYDRATES** 42G **DIETARY FIBER** 9G **SUGARS** 7G **PROTEIN** 14G **FAT** 17G **SATURATED FAT** 6G **CHOLESTEROL** 25MG **VITAMIN A** 622IU **VITAMIN C** 21MG **FOLATE** 101MCG **SODIUM** 468MG **CALCIUM** 281MG **IRON** 3MG **MAGNESIUM** 85MG **POTASSIUM** 670MG

TUESDAY

Skillet Lemon Chicken with Spinach

ACTIVE: 25 min **TOTAL:** 25 min

This simple, ultra-quick chicken dinner, packed with spinach and peppers, is delicious on its own or served over brown rice or your favorite pasta.

- 2 tablespoons extra-virgin olive oil
- 1 pound boneless, skinless chicken thighs, trimmed and cut into bite-size pieces
- 1 cup diced red bell pepper
- ½ teaspoon salt
- ½ teaspoon ground pepper
- 4 cloves garlic, minced
- ½ cup dry white wine
- 1 teaspoon cornstarch
- 1 medium lemon, zested and juiced
- 10 cups lightly packed baby spinach
- 8 teaspoons grated Parmesan cheese

1. Heat oil in a large skillet over medium-high heat. Add chicken, bell pepper, salt and pepper; cook, stirring occasionally, until the chicken is just cooked through, 7 to 9 minutes. Add garlic and cook until fragrant, about 1 minute.

2. Whisk wine and cornstarch together in a measuring cup. Add to the pan along with the lemon juice and zest; stir to coat, then bring to a simmer. Add spinach by the handful; cook, stirring, until wilted, about 2 minutes more. Serve sprinkled with Parmesan.

SERVINGS 4
SERVING SIZE 1 CUP
CALORIES 317 **CARBOHYDRATES** 11G
DIETARY FIBER 4G **SUGARS** 2G
PROTEIN 26G **FAT** 16G **SATURATED FAT** 4G
CHOLESTEROL 78MG **VITAMIN A** 10420IU
VITAMIN C 93MG **FOLATE** 26MCG **SODIUM** 526MG **CALCIUM** 184MG **IRON** 6MG
MAGNESIUM 128MG **POTASSIUM** 287MG

WEDNESDAY

Garlic-Anchovy Pasta with Broccolini

ACTIVE: 25 min **TOTAL:** 25 min

Here, we sprinkle the final dish with crumbled goat cheese for nice tangy bites throughout.

2	**tablespoons extra-virgin olive oil**
6	**anchovy fillets**
4	**cloves garlic, thinly sliced**
	Pinch of crushed red pepper
1	**(5 ounce) package baby spinach**
8	**ounces whole-wheat angel hair pasta**
2	**bunches broccolini or 1 bunch broccoli rabe, trimmed and coarsely chopped**
¼	**cup chopped fresh parsley**
¼	**teaspoon salt**
½	**cup chopped almonds, toasted**
4	**ounces goat cheese, crumbled**
	Grated lemon zest for garnish

1. Put a large pot of water on to boil.

2. Meanwhile, heat oil in a large skillet over medium heat. Add anchovies, garlic and crushed red pepper; cook, pressing the anchovies with the back of a wooden spoon to break them up, until fragrant, about 2 minutes. Add spinach in 2 batches and cook, stirring occasionally, until just wilted, about 1 minute. Remove from heat and cover to keep warm.

3. Add pasta and broccolini (or broccoli rabe) to the boiling water and cook until just tender, 3 to 5 minutes. Reserve 1 cup of the cooking water. Drain and transfer the pasta and vegetables to the skillet; toss to combine, adding enough of the reserved water to achieve desired consistency. Toss with parsley and salt and serve topped with almonds and goat cheese. Garnish with lemon zest, if desired.

SERVINGS 4
SERVING SIZE 1⅔ CUPS
CALORIES 457 **CARBOHYDRATES** 51G **DIETARY FIBER** 8G **SUGARS** 4G **PROTEIN** 21G **FAT** 21G **SATURATED FAT** 6G **CHOLESTEROL** 18MG **SODIUM** 548MG **POTASSIUM** 607MG

THURSDAY

Creamy Mushroom, Chicken & Asparagus Bake

ACTIVE: 20 min **TOTAL:** 35 min

This comforting weeknight casserole recipe features plenty of mushrooms and asparagus combined with chicken and brown rice and a creamy Parmesan cheese sauce. Whip this up anytime you have leftover chicken or cooked brown rice to spare.

- **1½ tablespoons extra-virgin olive oil, plus 1½ teaspoons, divided**
- **2 (8 ounce) packages sliced fresh button mushrooms**
- **1 cup chopped yellow onion**
- **3 tablespoons all-purpose flour**
- **2½ cups whole milk**
- **2 teaspoons chopped fresh tarragon**
- **½ teaspoon salt**
- **½ cup finely grated Parmesan cheese, divided**
- **1 pound fresh asparagus, trimmed and cut into 1-inch pieces**
- **1 (8.8 ounce) pouch precooked microwaveable whole-grain brown rice or 1½ cups cooked brown rice**
- **2 cups chopped cooked chicken breast**
- **¼ cup whole-wheat panko breadcrumbs**

1. Preheat oven to 375°F. Heat 1½ tablespoons oil in a large cast-iron skillet over medium-high heat. Add mushrooms and onion; cook, stirring often, until the moisture released from the vegetables evaporates and the mushrooms are lightly browned, 9 to 10 minutes. Stir in flour; cook, stirring constantly, for 1 minute. Gradually add milk; cook, stirring constantly, until the liquid thickens, about 2 minutes. Stir in tarragon, salt and ¼ cup Parmesan until melted. Stir in asparagus, rice and chicken. Remove from heat.

2. Toss panko with the remaining 1½ teaspoons oil and ¼ cup Parmesan in a small bowl; sprinkle over the chicken mixture. Bake until the mixture is bubbly and the topping is golden, about 15 minutes.

SERVINGS 6
SERVING SIZE ABOUT 1 CUP
CALORIES 329 **CARBOHYDRATES** 30G **DIETARY FIBER** 4G **SUGARS** 9G **PROTEIN** 26G **FAT** 13G **SATURATED FAT** 4G **CHOLESTEROL** 56MG **VITAMIN A** 952IU **VITAMIN C** 9MG **FOLATE** 145MCG **SODIUM** 413MG **CALCIUM** 206MG **IRON** 2MG **MAGNESIUM** 63MG **POTASSIUM** 746MG

FRIDAY

Seared Scallops with White Bean Ragu & Charred Lemon

ACTIVE: 25 min **TOTAL:** 25 min

This recipe turns out a healthy dinner that looks impressive and tastes great in just 25 minutes. Giving lemons a quick sizzle in the skillet amps up the flavor of this piccata-inspired dish.

- **3 teaspoons extra-virgin olive oil, divided**
- **1 pound mature spinach or white chard, trimmed and thinly sliced**
- **2 cloves garlic, minced**
- **1 tablespoon capers, rinsed and chopped**
- **½ teaspoon ground pepper, divided**
- **1 (15 ounce) can no-salt-added cannellini beans, drained and rinsed**
- **1 cup low-sodium chicken broth**
- **⅓ cup dry white wine**
- **1 tablespoon butter**
- **1 pound dry sea scallops, tough side muscle removed**
- **1 lemon, halved**
- **2 tablespoons chopped fresh parsley**

1. Heat 2 teaspoons oil in a large skillet over medium-high heat. Add greens and cook, stirring often, until wilted, about 4 minutes. Stir in garlic, capers and ¼ teaspoon pepper; cook, stirring occasionally, until fragrant, about 30 seconds. Add beans, broth and wine and bring to a simmer. Reduce heat to maintain a low simmer, cover and cook for 5 minutes. Remove from heat and stir in butter. Cover to keep warm.

2. Meanwhile, sprinkle scallops with the remaining ¼ teaspoon pepper. Heat the remaining 1 teaspoon oil in a large nonstick skillet over medium-high heat. Add the scallops and cook until browned on both sides, about 4 minutes total. Transfer to a clean plate. Add lemon halves to the pan, cut-side down, and cook until charred, about 2 minutes. Cut into wedges. Sprinkle the scallops and the bean ragu with parsley and serve with the lemon wedges.

SERVINGS 4
SERVING SIZE 3 OZ. SCALLOPS & 1 CUP RAGU
CALORIES 255 **CARBOHYDRATES** 21G **DIETARY FIBER** 5G **SUGARS** 1G **PROTEIN** 21G **FAT** 8G **SATURATED FAT** 3G **CHOLESTEROL** 35MG **VITAMIN A** 5997IU **VITAMIN C** 22MG **FOLATE** 141MCG **SODIUM** 590MG **CALCIUM** 110MG **IRON** 4MG **MAGNESIUM** 124MG **POTASSIUM** 853MG

SOMETHING SWEET

Vegan Chocolate-Dipped Frozen Banana Bites

ACTIVE: 30 min

TOTAL: 2 hr 30 min

These bite-size frosty morsels of frozen banana, peanut butter and vegan chocolate make a perfect snack or easy dessert. They store well in the freezer.

- **3 large bananas**
- **¼ cup natural peanut butter (chunky or smooth)**
- **¾ cup vegan chocolate chips**

1. Cut each peeled banana in half lengthwise. Spread each with peanut butter. Place the banana halves together to make banana "sandwiches." Cut 8 rounds from each banana sandwich. Place the banana bites on a baking sheet or tray lined with parchment paper or wax paper and freeze for at least 2 hours or overnight.

2. Place chocolate chips in a microwave-safe bowl and microwave on high in 15-second increments until melted (1 to 1½ minutes total). Dip half of each frozen banana bite in the chocolate. Let stand until the chocolate is set. If not serving immediately, return to the freezer.

To make ahead: Store in the freezer in a covered container for up to 1 month. Eat directly from the freezer.

SERVINGS 24
SERVING SIZE 1 BANANA BITE
CALORIES 58 **CARBOHYDRATES** 8G
DIETARY FIBER 1G **SUGARS** 5G
ADDED SUGARS 2G **PROTEIN** 1G
FAT 3G **SATURATED FAT** 1G
VITAMIN A 11IU **VITAMIN C** 2MG
FOLATE 4MCG **SODIUM** 10MG
CALCIUM 3MG **MAGNESIUM** 11MG
POTASSIUM 80MG

YOUR SHOPPING LIST FOR THE WEEK

PANTRY STAPLES

- Extra-virgin olive oil
- Salt
- Black pepper
- Crushed red pepper
- Cornstarch
- All-purpose flour

GROCERY

- 1 whole-wheat baguette
- 1 (8 ct.) pkg. corn tortillas
- 3 (8 oz.) pouches microwaveable brown rice
- 1 (16 oz.) box whole-wheat angel hair pasta
- 1 (8 oz.) container whole-wheat panko breadcrumbs
- 1 (15 oz.) can no-salt-added chickpeas
- 1 (15 oz.) can no-salt-added pinto beans
- 1 (15 oz.) can no-salt-added black beans
- 1 (15 oz.) can no-salt-added cannellini beans
- 1 (32 oz.) carton low-sodium chicken broth
- 1 (6 oz.) jar pitted Kalamata olives
- 1 (15 oz.) container pico de gallo
- 1 (750 mL) bottle dry white wine
- 1 (2 oz.) can anchovy fillets
- 1 (3 oz.) jar capers
- 1 (4.2 oz.) tube harissa paste
- 1 (16 oz.) jar natural peanut butter
- 1 (10 oz.) bag vegan chocolate chips
- 1 (2 oz.) bag chopped almonds

PRODUCE

- 3 lemons
- 3 large bananas
- 1 avocado
- 2 heads garlic
- 2 yellow onions
- 2 poblano peppers
- 1 red bell pepper
- 1 medium yellow squash
- 1 medium zucchini
- 1 pound asparagus
- 2 ears sweet corn
- 1 (10 oz.) package cherry tomatoes
- 1 (12 oz.) package snow peas
- 2 (8 oz.) packages sliced button mushrooms
- 1 (10 oz.) package baby spinach
- 1 lb. mature spinach
- 2 bunches broccolini (or 1 bunch broccoli rabe)
- 1 bunch parsley
- 1 bunch scallions
- 1 (0.66 oz.) pkg. tarragon

DAIRY, MILK & EGGS

- 1 (1 lb.) box butter
- ½ gallon whole milk
- 1 (32 oz.) container nonfat plain Greek-style yogurt
- 1 (16 oz.) container reduced-fat sour cream
- 1 (8 oz.) bag shredded pepper Jack cheese
- 1 (8 oz.) container grated Parmesan cheese
- 1 (4 oz.) container goat cheese

MEAT, POULTRY & SEAFOOD

- 1 pound boneless, skinless chicken breasts
- 1 pound boneless, skinless chicken thighs
- 1 pound dry sea scallops
- 2 cups chopped cooked chicken breast (about 12 oz.)

HEALTHY SNACKS

With gut-healthy, fiber-rich ingredients such as chickpeas, pears, berries and walnuts, these nibbles can help support your gut health and promote digestion.

Pecan Butter & Pear Toast

ACTIVE: 5 min **TOTAL:** 5 min

For a quick breakfast or snack, try this three-ingredient toast. Pecan butter adds nutty flavor that's balanced by the natural sweetness of the pear.

- **1 tablespoon pecan butter**
- **1 slice whole-grain bread, toasted**
- **½ small pear, thinly sliced**

Spread pecan butter on toast and top with pear slices.

SERVINGS 1
SERVING SIZE 1 TOAST
CALORIES 209 **CARBOHYDRATES** 25G
DIETARY FIBER 6G **PROTEIN** 5G **FAT** 11G **SATURATED FAT** 1G **VITAMIN A** 19IU
SODIUM 100MG **POTASSIUM** 146MG

Crunchy Roasted Chickpeas

ACTIVE: 5 min **TOTAL:** 45 min

Opt for this satisfying snack instead of nuts. The tasty legumes are packed with fiber and can be customized with various flavors.

- **1 (15 ounce) can no-salt-added chickpeas, rinsed**
- **Nonstick cooking spray**
- **¼ teaspoon sea salt**

Preheat oven to 425°F. Pat chickpeas dry with paper towels and place on a large rimmed baking sheet. Coat with cooking spray and sprinkle with salt. Bake until crunchy, 30 to 45 minutes.

SERVINGS 4
SERVING SIZE ¼ CUP
CALORIES 100 **CARBOHYDRATES** 17G
DIETARY FIBER 5G **SUGARS** 3G
PROTEIN 6G **FAT** 2G **SODIUM** 170MG

Chocolate-Peanut Butter Energy Bars

ACTIVE: 25 mins **TOTAL:** 1 hr 25 min

Dates provide all the sweetness needed for these no-bake energy bars. Each square serves up a hearty dose of protein—thanks to peanut butter and peanuts—as well as fiber from rolled oats. Kids will love the chewy bites with crunchy nuts.

- **¾ cup chopped Medjool dates**
- **1 cup smooth natural peanut butter**
- **½ cup rolled oats (see Tip)**
- **¼ teaspoon salt**
- **½ cup chopped unsalted dry-roasted peanuts**
- **¾ cup bittersweet chocolate chips**

1. Soak dates in hot water to cover in a medium bowl for 10 minutes. Drain, reserving the water.
2. Meanwhile, line an 8-inch square baking pan with parchment paper, leaving extra hanging over two sides. Lightly coat the parchment with cooking spray.
3. Combine the soaked dates, peanut butter, oats and salt in a food processor; process until very finely chopped and starting to clump together. If the mixture seems dry, add a little of the reserved soaking water, 1 tablespoon at a time. Transfer to the medium bowl and stir in peanuts. Spread the mixture evenly and firmly into the prepared pan.
4. Place chocolate chips in a microwave-safe bowl and microwave on Medium (50%) until melted, 2 to 3 minutes. Spread the chocolate evenly over the oat mixture. Refrigerate until cold, about 1 hour. Remove from the pan by lifting the overhanging parchment. Cut into 16 squares.

Tip: People with celiac disease or gluten sensitivity should use oats that are labeled "gluten-free," as oats are often cross-contaminated with wheat and barley.

SERVINGS 16
SERVING SIZE 1 SQUARE
CALORIES 203 **CARBOHYDRATES** 17G **DIETARY FIBER** 3G **SUGARS** 11G **ADDED SUGARS** 3G **PROTEIN** 5G **FAT** 13G **SATURATED FAT** 3G **VITAMIN A** 14IU **FOLATE** 8MCG **SODIUM** 90MG **CALCIUM** 12MG **IRON** 1MG **MAGNESIUM** 24MG **POTASSIUM** 131MG

Blueberry-Lemon Energy Balls

ACTIVE: 10 min **TOTAL:** 10 min

If you're looking for a midday pick-me-up, these come together in minutes and make a perfect on-the-go snack. Walnuts add a boost of plant-based protein and help keep you energized, while a bit of maple syrup adds sweetness.

¾ cup walnuts
½ cup pitted dates
¼ cup dried blueberries
¾ cup old-fashioned rolled oats
2 tablespoons maple syrup
1 teaspoon grated lemon zest
1 tablespoon lemon juice

1. Add walnuts, dates and blueberries to a food processor; process until chopped and combined, 7 to 10 seconds. Add oats, maple syrup and lemon juice. Continue processing until a smooth, thick paste forms, 20 to 30 seconds.

2. Transfer paste to a small bowl; add lemon zest and mix to combine. With your hands, form and roll the mixture into 18 small balls.

SERVINGS 6
SERVING SIZE 3 ENERGY BALLS
CALORIES 190 **CARBOHYDRATES** 27G **DIETARY FIBER** 4G **SUGARS** 15G **ADDED SUGARS** 4G **PROTEIN** 4G **FAT** 9G **SATURATED FAT** 1G **VITAMIN A** 3IU **VITAMIN C** 3MG **FOLATE** 13MCG **VITAMIN K** 3MCG **SODIUM** 1MG **CALCIUM** 32MG **IRON** 1MG **MAGNESIUM** 32MG **POTASSIUM** 207MG **ZINC** 1MG **OMEGA 3** 1G

EatingWell

Gut Health

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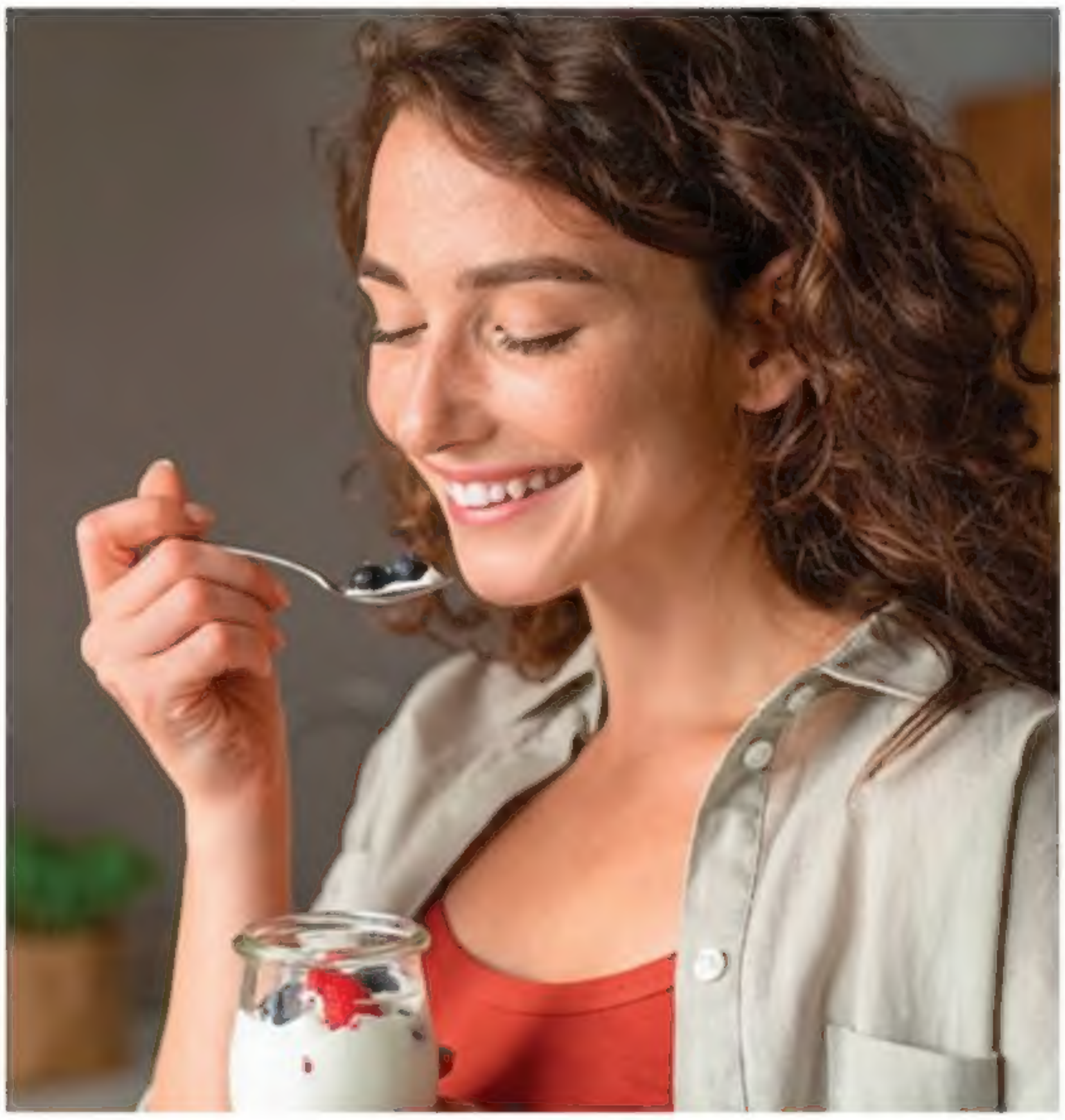
Raspberry-Lemon Greek Frozen Yogurt Bark at eatingwell.com/ yogurtbark

THE BEST FRUIT FOR GUT HEALTH, ACCORDING TO A GASTROENTEROLOGIST

The health benefits of fiber suggest that it can have a beneficial impact on gut health, digestion, bone strength, weight, risk for several chronic diseases and even longevity. And one of the most potent sources of fiber is a sweet, versatile fruit. "I'm a huge fan of raspberries," announces gastroenterologist Will Bulsiewicz, M.D., the best-selling author of *Fiber Fueled* and *The Fiber-Fueled Cookbook,* in an Instagram reel. "They're super high in fiber. A cup of raspberries has about 7 grams of fiber—that's like half of what the average American is getting per day." Bulsiewicz goes on to share more about the berries' many health benefits, including the fact that they're rich in nutrients such as vitamin C and polyphenol antioxidants, "which are incredibly good for us!"
—Karla Walsh; reviewed by Jessica Ball, M.S., RD

ALL CONNECTED

Science shows a healthy gut can positively impact the whole body, supporting the immune system, combating chronic inflammation, improving stress levels and much more. What you do and eat daily can play a major role in fostering a healthy gut microbiome.